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GOVERNMENT OF MYSORE

THE MYSORE REVENUE SURVEY MANUAL

PARTS I AND II.

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INTRODUCTORY.

CHAPTER I.

I. *Pre-Survey Period.*

Highly interesting as is the older history of land settlements in Mysore, it cannot well find a place in this Manual which must confine itself to an exposition of the system now in force. The ever changing constitution of the country in earlier times, the vicissitudes it was subject to, and the effects of those vicissitudes on land administration, have all to be passed over. A narration of even the remarkable effort of Dewan Purniah to establish the administration of land on an efficient survey of it, would be out of place. The following paras of this chapter will however, depict very briefly the conditions that prevailed immediately before the existing system of settlement was inaugurated.

2. In 1831, the British Government began to administer the State on behalf of His Highness the Maharaja. The question was raised as to whether the unit of land settlements in Mysore should be the village and Zemindar as in the Panjab and North-West Provinces, or field and peasant-ryot as in the Bombay and the Madras Presidencies. The Government of India decided that the ryotwari system was the one well adapted to the wants and traditions of the people. This was practically the system that was being followed in the past. The British Commissioners, after investigating into the tenures under which lands were held, removed a great many incongruities, and liberalised the old system in several of its details. The money rents were lowered in cases where the authorities were satisfied that they were pitched too high. The system of exacting the *khist* before the harvest was abolished, and ryots were allowed to pay taxes in five instalments at periods fixed with reference to the harvest season. Where the Batayi system was in force, every effort consistent with the prescriptive right of the cultivator was made to convert the assessment into a money payment, and where it was still allowed to prevail, it was purified of its most vexatious characteristics. The ryots were thus to a great extent saved from the clutches of the

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professional money lenders, and from the harrassing periodical inspection of their crops and other vexatious interference with their cultivation.

3. The question of the miscellaneous sayar taxes was a most difficult one, and did not for several reasons admit of being settled at once, although it was clear that most of them were inequitable. These taxes were abolished one after another as the finances of the State permitted, so that by the end of the year 1854, no less than 769 items of sayar taxation, yielding an income of about 10¾ lakhs of rupees per year, were gradually swept away.

II. *Introduction of Revenue Survey and Settlement.*

4. Although a regular survey of all lands was felt to be absolutely necessary for the proper administration of land revenue, it was not possible to undertake the measure in the early days of the British Commission, as the necessary funds could not be found for it. By the year 1855, the State revenue which had previously fallen to a low level, had improved, and the time coincided with the renewal of the charter of the East India Company in 1854, one result of which was that throughout India there was a strong move towards reform in every department. Naturally, the same attitude began to operate in the administration of Mysore, and reforms were begun in every possible direction. The system of land revenue demanded, of course, the primary attention of Government.

5. All lands in Mysore were classified under the Budget system, according to the tenure on which they were held, as follows:—

I. Village Settlements.

1. *Kayamgutta*, or permanently settled villages,
2. *Jodi*, or lightly assessed villages,
3. *Shraya*, or villages on a progressive rental,
4. *Kalavadhi Ijare*, or villages rented for one year.

II. Individual Settlements.

A. *Government.*
1. *Ryotwari, Kandayam*, or assessed Government lands,
2. *Batayi*, or division of produce,

B. *Inam.*
1. *Ardhamanya, or uttar, etc.*, lands,
2. *Jodi* or lightly assessed lands granted to:—
   i. Village servants,
   ii. Brahmans, Fakirs and Temples, and,
   iii. for the maintenance of topes, Chattrams, *etc.*

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Lands were of three classes, 'dry', 'wet' or irrigated, and 'garden.' The collections were being shown in the accounts as money payments and *batayi*. Attention was steadily directed to reducing the extent of land under the *Batayi* tenure by substituting money assessment wherever practicable. But it could not be completely abolished, as there was no means of equitably assessing the large area held on this tenure under tanks. Enquiry proved also the existence of a great many discrepancies, and of fraud. In the neighbourhood of Bangalore the seat of the administration, the village Shanbogs had succeeded by collusion with the taluk subordinates, in fixing 596 different rates of assessment on dry land alone, while on the other classes of land, the assessment was so preposterously high as to demonstrate clearly the incorrectness of the land measurement, which was in terms of *Bijawari i. e.*, the area that can be sown with a certain quantity of seed. There were as many as 81 and 451 different rates of assessment per *Kudu* of wet and garden land respectively. In the Chitaldrug Division, 465 rates on eleven classes of land formed the basis of land revenue. In the Nagar Division, 147 rates on wet lands, varying from Rs. 16½ to 7 annas per *Kudu* were found in one taluk. The assessment on supari garden in one village was Rs. 197 per *Kandy*, or more than Rs. 95 per acre. In the Ashtagram or Mysore Division, there were 32 rates on dry, 5 on wet and 12 on garden lands. The soils had been divided into 19 classes. There were thus no practicable and intelligible principles on which lands were assessed, on the other hand there was ample scope for annoyance and fraud, which could not be easily detected. A large number of tenants had no claim to permanent occupancy. Owing to the want of adequate check on unauthorised occupation, Inamdars in several instances had encroached upon Government lands.

6. The introduction of a regular Revenue Survey and Settlement thus became all the more pressing in the interests of a good revenue administration. Mr. Bowring, the then Chief Commissioner, therefore urged upon the Government of India the necessity that existed for a Revenue Survey and Settlement for the purpose of defining the respective rights of the Government and of the raiyats, and for fixing an equitable and moderate assessment on the soil. The Government of India accorded their sanction to the introduction into the State, of a Revenue Survey.

7. The next question was as to the system and the agency to be employed for the purpose. Mr. Bowring preferred the Bombay System for reasons summed up as follows in his letter No. Gen. 3133- Rev. 130, dated 19-11-1864, to the Government of India:—

"I found that in Mysore which borders both on that (Bombay) Presidency and on Madras, we had ample opportunity of comparing the method pursued in either case. The difference

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is as follows. Under the Bombay system, the survey, classification and settlement are all continuous links of one chain forged under the directions of the same individual, whose interest it is to see that every successive link fits closely into its predecessor, every step being also carefully taken with advertence to the next one. There is no such close connection in the Madras system. The boundaries are fixed by one person, the survey laid down by another and the settlement by a third; these several agencies not being under one responsible head. The survey, so far as I can judge, is excellent, but the Surveyor had not the power of altering the boundaries, if incorrect. On the completion of the survey, the work was taken up by the Settlement Officer, but I am given to understand that the agency employed, frequently temporary gumastas paid for the purpose, was so indifferent that the settlement papers did not agree with the survey records and were of little value. I believe there is no doubt at any rate that the survey was much more carefully done than the settlement."

It was decided finally to adopt the Bombay system in preference to that of Madras, and the details were discussed with, and arranged by, Major W. C. Anderson, Superintendent, Southern Mahratta Country Revenue Survey, who was to supervise the Mysore operations as Survey and Settlement Commissioner.

8. The Mysore Revenue Survey Department was then formally organised and operations were commenced in the Harihar Taluk in November 1863, with one Measuring Establishment under the charge of Leiutenant (the late Colonel) J. P. Grant, Assistant Superintendent. By this time, the Bombay system, as outlined by the illustrious authors of the Joint Report was in operation in the Bombay Presidency for upwards of a quarter of a century, and had become so well developed in its details, that the rules and procedure followed in the Southern Mahratta Country Revenue Survey were made applicable with but few modifications to the work carried out in Mysore. For an account of the course that led to this stage of development in the Southern Mahratta Country the reader is referred to the Bombay Survey and Settlement Manual.

CHAPTER II.

Progress of Revenue Survey and Settlement operations.

Survey operations were, as stated in the last Chapter, commenced with one measuring establishment in 1863. A second measuring Establishment was constituted in 1864, and the first classing establishment commenced its operations in the same year. In 1865,one more measuring establishment was added. The increasing number of field establishments, and the necessity to relieve the Settlement Commissioner of minor details connected.

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with the control of field establishments, and the management of settlements, necessitated the appointment of a Deputy Superintendent, and the late Colonel J. P. Grant was promoted to the new post in December 1865.

2. Shortly after the commencement of survey operations, a brief account thereof, which appeared in the State Annual Report for 1863--64, attracted the attention of the Government of India, who called for information on certain matters of detail connected with (1) the powers of Survey Officers in the disposal of cases of a civil nature, relating to land tenures, (ii) the classification of soil into classes and (iii) the mode and the terms of settlement. The Chief Commissioner reported on these points at sufficient length, dwelling at the same time on the merits of the Bombay system, with which the Government of India were satisfied.

3. One other important matter was decided in the course of this correspondence, and that was in regard to the period of survey guarantee. The Government of India decided that a thirty-year-period was just and equitable, considering the detailed and careful character of the scrutiny enjoined under the Bombay system.

4. The year from which settlements should take effect was also a question for cosideration. At first, they were made to take effect in and from the year of announcement, and refunds were allowed to ryots who according to the old rates had paid more than the survey rates. After the settlement of the Chitaldrug Taluk, 1866-67, the system of refunds was put a stop to by the ruling that settlements should take effect in and from the year following that in which they are announced.

5. In 1865-66, the Chief Commissioner made a tour in the north-eastern portion of the State, with the special object of observing the actual working of the Survey Department which had by that time handled six taluks. He found that the work had been very carefully done, and was convinced that the result was satisfactory both to the ryots and to the Government, the survey being minutely correct, the classification of soils accurate, and the settlement rates extremely low as compared on an average with the old rates, which only held good by reason of excess holdings enabling the ryots to spread a high rate of assessment over more land than their pattas entitled them to.

6. The Chief Commissioner was anxious to expedite the operations and complete them before handing over the administration of the State to His Highness the Maharaja; but this object could not be fulfilled, owing chiefly to the difficulty felt even at that time, in obtaining the services of qualified officers and men. A large portion of the State had been brought under Settlement by the time of the Rendition, but much also remained to be done. The department was continued, and was headed

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by the Superintendent of Revenue Survey and Settlements to which place the late Col. J. P. Grant was raised, in lieu of the Survey and Settlement Commissioner.

7. During the earlier stages of survey operations, Act I of 1865 of the Bombay Government was taken as a guide, and in 1869, it was formally introduced into Mysore, with the necessary alterations, under the Government of India Foreign Department Notification No. 83, dated 30th April 1869. This was superseded by the Mysore Land Revenue Code, Regn. IV of 1888.

8. The progress of operations, year by year, is shown below in a tabular form:—

Year	Number of Field establishments		Number of taluks surveyed	Number of taluks classed	Number of taluks settled
	Measuring	Classing			
1864	2	1	2	1	...
1865	3	1	2	2	1
1866	3	1	1	1	...
1867	4	1	1	1	2
1868	5	2	2	1	1
1869	7	2	5	2	1
1870	8	2	4	2	2
1871	9	3	1	5	3
1872	8	3	4	2	4
1873	11	3	2	5	1
1874	11	3	3	3	1
1875	11	3	4	1	3
1876	11	3	3	6	3
1877	10	3	2	1	2
1878	8	2	1	1	4
1879	8	3	4	4	4
1880	7	3	5	3	4
1881	7	3	3	2	3
1882	7	3	2	3	3
1883	5	3	3	3	3
1884	5	3	3	4	2
1885	5	3	4	5	5
1886	5	4	2	3	2
1887	5	3	1	1	3
1888	4	2	2	2	2
1889	4	2	4	2	2
1890	4	2	1	1	2
1891	4	2	Total 71	1	2
1892	4	2		1	0
1893	...	2		1	2
1894	...	2		...	1
1895	...	1		1	1
				Total 71	
1896	...	2	Employed on re-classification of wet and garden lands.		...
1897	...	...			1
1898	...	2			1
1899	...	2			1
					Total 71

N.B.—For purposes of settlement, the number of taluks is taken as 71

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9. The statement shows that measuring operations were completed by the year 1890, and classing by 1895. The last taluk settled was Nanjangud, in 1899.

10. The services of the Department were availed of by the Jahgirdars of Yelandur and Sringeri, and by many of the Inamdars, whose villages were surveyed and settled, without any cost to them.

11. Before concluding this chapter, a brief mention has to be made of the special remission of garden assessment made in the malnad taluks of Sagar, Sorab, Nagar, Anantapur, and Koppa. The assessing of gardens is one of the most delicate of the settlement operations, and in the malnad, the matter was further complicated by the circumstance that while most of the gardens were heavily assessed under the older administrations, their produce, *Supari*, was subject to the payment of a *Sayer* or *Halat* duty. This was the only impost remaining out of a large number of the kind, which had been abolished one after another from time to time. The nature of the tax itself, and the past attitude of Government towards such taxes, clearly indicated that the *Halat* was bound to disappear, while the Settlement Officer assessed the gardens on their merits. Some years after the settlement, the raiyats began to feel that they were subjected to a double payment, and prayed for relief. After a thorough and special investigation, Government saw that the garden-owners did need some relief, though they were not prepared to forego the Sayer Revenue. They therefore thought of devising other means, and the one that was hit upon was to remit a portion of the assessment, up to a total limit of Rs.75,000. The Survey Superintendent was called upon to work out the scheme of remission. The task was indeed a huge one, as he had to fix the amount of remission individually for each garden, which was tantamount to a complete re-assessment of the gardens, more than 14,000 in number. The result was that a sum of about Rs. 85,000 was remitted in favour of the garden owners of the five purely malnad taluks. The sayer duty continued to be levied, and of course, operated to neutralise the concession shown by Government, thus proving that the root of the evil was not so much the higher rate of assessment as the tax itself. The obnoxious tax was abolished in 1907, to the great satisfaction of the garden-owners.

CHAPTER III.

Revision Survey and Settlement.

Before the expiry of the period of thirty years, guaranteed at the original settlement, in some of the early-settled taluks of the Chitaldrug District, the Superintendent of Revenue Survey raised the question of introducing revised settlements. Government were inclined more to continue existing settlements than to adopt

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a scheme of revision, and also thought that field operations were unnecessary for purposes of revision, as they considered the original operations to be sufficiently good and accurate. The Superintendent pointed out among other things, that at least a reclassification of water-supply to wet and garden lands was absolutely necessary in the interests of both the raiyats and of Government, as great changes had taken place by the improvement or deterioration of works of irrigation, though the soil need not be classed again. Pending orders on the general question of revision settlements, Government sanctioned the reclassification of wet and garden lands with special reference to the value assignable to the water-supply enjoyed by them. (Government Order No. 4115-17--R. 1414, dated 5-11-1896.) The work was accordingly undertaken and two classing establishments were deputed for it.

2. It was in 1900 that Government resolved to have a fresh revenue survey (ordinarily called Resurvey) as provided for in Section 115 of the Land Revenue Code, and announced by Notification No. 3374--R. F. 8-1900 dated 24th October 1900,--

(1) that they directed a fresh Revenue Survey *i.e.*, a revision survey, and a revision of assessment in all taluks of the State in which the periods of the original settlements had expired;

(2) that the revision survey so directed shall comprise only such remeasurement as shall be deemed absolutely necessary in order to correct omissions in the existing survey and to rectify changes in the boundaries of survey fields which have from any reason occurred, or such remeasurement as may be necessary to effect sub-division in the interests of the occupants and landholders, or under any of the rules under the Land Revenue Code, and,

(3) that the reclassification of lands shall be confined to the reclassification of wet and garden lands.

3. Rules were framed for carrying out the partial resurvey and reclassification operations in conformity with the intentions of Government, and were approved of by Government in their orders Nos. 4250-8--R.F. 8-1900, and R. 163-77, dated 26th November 1900, and 15th July 1904, respectively. These are given in detail in volume II.

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THE MYSORE
REVENUE SURVEY MANUAL

CHAPTER I.

GAZETTED OFFICERS, THEIR POWERS AND DUTIES.

1. *Gazetted Officers.*—Survey officers are appointed under Section 17 of the Mysore Land Revenue Code, IV of 1888, and they are designated as noted below :—

(i) Superintendent of Revenue Survey and Settlement,

(ii) Deputy Superintendent of Revenue Survey and Settlement,

(iii) Survey Settlement Officer,

(iv) Assistant Superintendents, Sub-Assistant Superintendents and Probationers are also appointed by Government from time to time and deputed for work in the Survey Department.

The sanctioned scale of the superior staff consists of :—

One Superintendent with the status of a Deputy Commissioner,

One Deputy Superintendent,

Five Assistant Superintendents,

One Assistant Superintendent (temporary).

These will draw their present pay pending the re-organization of the Civil Service.

Two Sub-Assistant Superintendents on Rs. 150-$\frac{25}{2}$-200,

Two Sub-Assistant Superintendents (temporary),

One Sub-Assistant Superintendent for the Superintendent's Office (temporary),

One Sub-Assistant Superintendent for charge of the Headquarters and Record Office,

One Sub-Assistant Superintendent for Inam and miscellaneous work,

One Sub-Assistant Superintendent (temporary) for field relief work.

Subject to the orders of the Government these officers are vested with the cognizance of all matters connected with Survey and Settlement and exercise all such powers and perform all such duties as are prescribed by the Revenue Code or any other law for the time being in force.

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2. *Superintendent.*—He is the chief controlling authority in Survey matters subject to the orders of Government. The administrative charge of the Revenue Survey Department is vested in the Superintendent of Revenue Survey and Settlements. This includes the settlement of remuneration payable to Patels and Shanbhogs, the allocation of minor inams, the work connected with the preparation and proposals for the settlement of land revenue in specific areas, the announcement and introduction of Settlement rates and the preparation and custody of all records connected with the Revenue Survey. His gazetted staff consists of a Personal Assistant, an Assistant Settlement Officer and the Assistant in charge of Survey Records Office These officers are generally of the rank of Assistant Commissioners.

3. *Deputy Superintendent.*—Subject to the control of the Superintendent, the Deputy Superintendent exercises executive control over Field Establishments He is also entrusted with the functions of Chief Audit Officer of the Department. He is required to inspect the Field Establishments as often as may be necessary during both the Field and Monsoon seasons. He conducts the settlement operations of such taluks as may be entrusted to him; and has in addition to perform miscellaneous duties such as those connected with a special Akar Dufter and Survey training Schools for officers of other Departments.

4. *Inspection of Field Establishments.*—The Superintendent and the Deputy Superintendent are expected when inspecting Field Establishments to examine the accounts, to test the veracity of measuring instruments, and to test the work of both the fieldmen and the Assistants in order to see whether their work has satisfied the requirements of the several rules and orders prescribed in that behalf. (E. A. G. 44, dated 22nd February 1916.)

The visits must be more frequent and the examination more thorough in the case of junior and inexperienced officers than in the case of others.

5. *Assistant Superintendent.*—Assistant Superintendents hold charge of Field Establishments and they are held responsible for the proper working, good order and discipline of the Establishments placed under their control. Their statutory duties are prescribed in Sections 107, 108, 126, 127, 128, 130 and 133 of Mysore Land Revenue Code, IV of 1888.

6. *Status.*—Assistant Superintendents in charge of Field Establishments generally hold the rank of Assistant Commissioners.

7. *Headquarters.*—The station of an Assistant Superintendent in the field season is the taluk or taluks assigned to him and he cannot without permission be absent from that taluk except on authorized holidays.

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8. *Presence in the field.*—In the event of an Assistant Superintendent being deputed to a taluk in which Survey operations were not in progress during the preceding season, he should arrange to move out with his Establishment on the due date. If owing to any reason, he is detained, he should join his charge within three days of the commencement of Survey operations as the prevention of difficulties, if any, at the outset is of material consequence and this can be best managed by the officer in charge being himself on the spot. If employed in a taluk in which Survey operations had been in progress during the preceding season, the Assistant Superintendent must join his Establishment within seven days of the date fixed for the commencement of field work.

9. *Arrangement of field work.*—An Assistant Superintendent must so arrange his field work that all his men may if possible, be within five or six miles of his camp. Young and inexperienced measurers should be as near to his camp as possible so that their work might be supervised at frequent intervals.

10. *Inspection of measurer's work.*—Assistant Superintendents should carefully examine every measurer's books, records and maps once in a month to see that they are all written up to date in accordance with rules. Frequent visits in the field and detailed examination of all the books and records in the Assistant Superintendent's camp constitute an important part of an officer's duties.

11. *Office accommodation and supply of furniture.*—Assistant Superintendents should provide office accommodation and furniture out of the fixed tentage allowed to them.

12. *Leave.*—As a general rule, leave will not be granted to Survey officers during the field season (G. O. No. 2857 of 1865). When applying for leave, either during the field season or barasathi, the officer should state what arrangements he would propose for carrying on the duties of the Establishment during his absence on leave.

13. *Christmas Holidays.*—The work of the Survey Department should be considered as emergent business for purposes of Christmas Holidays and Assistant Superintendents cannot ordinarily be permitted to be absent when the Establishments are working in the field.

14. *Grant of leave to measurers.*—During the monsoon season Assistant Superintendents can grant any official in their Establishments casual leave for *eight* days. Leave of all other descriptions except sick leave requires the sanction of the Deputy Superintendent.

15. *Powers of fining.*—In the first year of his being placed in charge of an Establishment the officer must submit for sanction all cases of fines imposed by him. Assistant Superintendents

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over one year in charge have to submit for confirmation in Form No. 69 all cases of fines in excess of 10% of an official's salary. Fine submitted for confirmation cannot be levied until sanctioned.

CHAPTER II.

Recruitment and Training of Gazetted Officers.

16. Appointments to the Gazetted ranks in the Revenue Survey Department are made upon such conditions and pay as may be prescribed by Government. When an Assistant Commissioner belonging to the Mysore Civil Service Cadre is deputed for employment in the Revenue Survey Department, he should, in addition to the training and tests prescribed under the Mysore Civil Service Rules, be trained in the work of the Department and will be required to pass the Departmental Examination in Survey work. Other Probationers posted for duty in the Survey Department will have to qualify themselves in such tests including an examination in Kannada and undergo such training as may be prescribed from time to time by the Superintendent. A Probationer who has not shown adequate progress during his course of training will have his confirmation deferred.

17. *Equipment.*—The Probationer should maintain a servicable riding horse and equip himself with a tent for camping in the field when a tentage is allowed to him.

18. *Field training.*—As a rule, Assistant Commissioners and other officers deputed for work in the Department will be first attached to a measuring establishment for one year and they are required to maintain a diary showing their daily occupation and a copy thereof has to be forwarded every month to the Deputy Superintendent, countersigned by the Assistant Superintendent in charge of the Establishment. The period of training of other Probationers appointed for the first time in Government service is generally extended to two years. The Assistant Superintendent should take a leading share in training the Probationer in all branches of work in Field Establishment.

19. *Departmental Examination.*—On being satisfied that the progress made by a Probationer during his training was good, he will be required to sit for a Departmental Examination as detailed below before being placed in charge of an Establishment.

(1) About 20 written questions on the measurer's rules to be answered in writing and five questions regarding points of practice in an Assistant's duties, not expressly provided for in the rules.

(2) Detailing and explaining the various returns and statements which are sent in, by an Assistant Superintendent in

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charge of a measuring establishment to the Deputy Superintendent.

(3) Producing the plots of twenty numbers measured in the ordinary manner with Theodolite, including at least four separate tests or blocks, and contents found by scale, ten numbers measured as a measurer measures with chain and cross-staff and ten numbers measured with Theodolite and chain, the contents of the main triangles being found by Trigonometry and of the offsets by calculation of base and perpendicular.

(4) The execution of the Survey of a piece of ground of about fifty acres by the traverse system.

(5) Reading and explaining all the entries in a measurer's field book of a few numbers taken at hazard.

(6) The Survey and sketch of undulation of a piece of hilly ground.

(7) Any general or further questions the Superintendent may see reason to put.

CHAPTER III.

Field Operations and the Constitution of the Field Establishments.

(i) *Field operations.*

20. *Commencement and closing of field operations.*—A suitable date for commencing the field operations is fixed by the Superintendent every year but the closing date may, in the absence of orders to the contrary, be taken to be the 15th of June.

21. *Publication and attestation of notice.*—Each measurer or classer will be given two copies of the notice in Form No. 1, which will be his credential for commencing survey operations in the village. Immediately after the villagers are assembled by beat of tom-tom, the measurer should read the notice to the raiyats explaining the object and scope of the survey operations. The notices should be signed by the village officials and raiyats in token of their having heard the provisions contained therein. One copy should be affixed in the village chavadi or temple or some other prominent place, and the second should accompany the village Ahawal Report to be submitted to the Assistant Superintendent.

22. *Measurers or Classers to go to field accompanied by village officials and Khatedars.*—When proceeding to the field for Survey operations, Measurers or Classers should require the attendance of the village Patel, Shanbhog, Khatedars and others for furnishing any information that may be required regarding their fields and for showing their boundaries. The village officials and the villagers are bound to find men for holding flags and

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dragging chains. The supply of flags, pegs, and chunam for whitewashing and marking demarcation points devolves on the villagers.

(ii) *Constitution of Field Establishment.*

23. Field Establishments consist of Karkoons and peons attached to the office of Assistant Superintendents, Surveyors, Classers, Measurers and Learners. Their appointments, postings, promotions, removals and dismissals are made under the orders of the Superintendent.

24. The strength of a Field Establishment depends on the nature of the country, the area to be surveyed and the standing of the officer placed in charge. Each Resurvey Measuring Establishment is ordinarily composed of one Surveyor and 30 Measurers. The strength of the Classing Establishments is fixed rom time to time, but the average strength is about 20 Classers.

(iii) *Duties and Responsibilities of Measurers and Classers.*

25. *Instruction of field work without permission is prohibited.*—A Measurer or Classer should not instruct or allow any person to accompany him to the field for instruction without the written permission of the officer in charge.

26. *General conduct of a Measurer or classer in villages.*—While employed in villages, subordinate members in Field Establishments should so conduct themselves that no occasion is given for even a suspicion that they have been identifying themselves with any person or faction in the village. Any act on their part which would vitiate the impartial discharge of their public duties will be severely noticed by the higher authority.

27. *Work diaries to be submitted to Assistant Superintendents.*—A Measurer is required to submit to the Assistant Superintendent a daily report in Form No. 2. The Classer should send his report in Form No. 3 once a week for the period ending Saturday. The report should reach the Assistant Superintendent on the following Monday. The names of learner and Bandh peon, if any, should be duly noted in the reports prescribed in this section.

Should they be prevented on any day by sickness, rain or hindrances on the part of the villagers, from doing field work, they should mention the circumstance in these reports. The obligations on the part of the villagers to cooperate are given in sections 107 and 108 of the Land Revenue Code.

28. *Records and maps to be taken to field.*—When measurers and classers proceed daily for work, all records, maps and registers pertaining to their work should be taken

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to the field and made available for the inspection of higher officers.

29. *Care of instruments.*—Measurers and Classers should take great care of the instruments supplied to them. When the officer in charge is satisfied that any instrument is damaged owing to the carelessness of the subordinate, the cost of replacement or repair will be deducted from the pay of the defaulter. The cross staff must be specially attended to. It must not be carelessly thrown about nor exposed to the sun after work in the field but placed carefully in the shade so that it may not by contraction of the wood become rickety.

30. Each measurer will be provided with two chains of sixteen annas in length and a four anna rod for the purpose of testing them. The chains should not be used alternately in as much as such a course would subject them to an equal amount of wear and hazard the chance of both breaking in such quick succession as to impede the progress of the measurements. The chain in use should be tested every day immediately on returning from the fields; and in order to do this every measurer on arriving at the village he is to measure, should fix two pegs in front of the chavadi or his residence, at a distance of sixteen annas from each other, measured by the test rod. The chain should be extended on these pegs and then measured with the rod; and in case it is found incorrect, *i.e.*, when the difference is half an inch or more, no time should be lost either in having it repaired, by the village blacksmith, if there is one, and is able to alter it, or in sending it to the Assistant Superintendent for that purpose. In the meantime, the other chain should be used.

(iv) *Out-turn of Field Work and Preparation of Field Records.*

31. *Out-turn of field work.*—It is not possible to give the Measurers and Classers definite orders relative to the quantity of work they are daily to accomplish; but this much is insisted on, that they shall work in the fields every day, except on holidays and do as much as they can, without allowing their records to fall in arrears or mistakes to occur in their work. It must however be borne in mind, that the average daily out-turn shall not be below the standard noted on the next page.

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(a) Measuring Establishment.

	Measurement Numbers	Kacha Pahani Numbers	Pakka Pahani Numbers
	Maidan Taluks.		
Probationary Measurer ..	3 to 3½	7 to 8	10 to 12
Measurer ..	4	10 to 12	13 to 15
	Malnad Taluks.		
Probationary Measurer ..	2½ to 3	6 to 7	8 to 10
Measurers ..	3 to 3½	7 to 8	10 to 12

When Theodolite measurement is taken, the average outturn in the maidan should not be less than 25 stations and 250 chains and that in the malnad 20 stations and 150 chains.

(b) Classing Establishment.

	Maidan	Semi-Malnad	Malnad
Classer ...	Wet 10 to 12 numbers.	20 numbers ...	8 to 10 numbers on an average.
...	Garden 8 to 10 numbers.		

32. *Measurers and Classers to maintain records in Kannada language.*—Unless otherwise directed by competent authority, measurers and classers are required to write their field books, reports and other records in the Kannada language.

33. Measurers and Classers are to write their records in a plain legible hand, and endeavour to avoid all mistakes. When, however, a mistake does occur, immediately on discovering it they are to draw a line below it, make a mark of interlineation and enter the correction above it in a plain manner. They must not blot or scratch their writing; and in case they make a serious error, which it would not be right for them to correct, they should immediately on discovering it, inform the Assistant Superintendent of it, and act agreeably to whatever orders he may issue. No attempts should be made to hide mistakes.

34. *Name of village, etc., to be written in field books.*—The names of villages should invariably be written on the cover and opening page of the field books and other survey records as entered in the original survey but the names of the taluks and hoblies should be written as at present constituted. Measurers should refer doubtful cases for the orders of the Assistant Superintendent.

35. *Phode work.*—Measurers deputed for phode work should maintain separate field or tippan and pakka books for each village dealt with by them.

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v) *Rules relating to Leave, Batta, Pension and Training Allowance.*

36. *Leave.*—Leave allowances, periods and descriptions of leave admissible to subordinate members of the Field Establishments are provided for in sections 156, 158, 159, 173, 201, 202, 203, 204 and 205 of the Mysore Service Regulations.

37. *Leave during monsoon.*—A return showing the names of members of Field Establishments to be recommended for leave during the monsoon should be forwarded by the Assistant Superintendents soon after the arrival of the Establishments in Bangalore. The names of any men recommended for leave with effect from the date of close of work in the field should not be delayed but sent in advance of the return prescribed in this section.

38. *Inability to attend Hospital.*—When a Karkoon, Classer, Measurer or Learner is unable to appear before a medical officer owing to serious illness, the opinion of the Assistant Superintendent in charge after personal inspection is as good as a medical certificate.

39. *Overstay of Leave.*—Subordinate members of the field, staff overstaying any leave granted to them will be treated as absent from duty from the date of their availing themselves of the leave to the date of rejoining their appointment. When they overstay the leave granted on forfeiture of batta, deductions by way of penalty may at the discretion of the officers in charge be made as follows:—

3	days' pay for	one day overstayed.
6	,,	two days ,,
10	,,	three ,,
30	,,	four ,,

Full pay to be forfeited for the whole period of leave if the overstayal is for above four days.

40. *Notice of long leave.*—Measurers must give due notice of their intention to apply for leave and when applying for long leave must state that they have no intention of applying for more on account of marriages, etc., during the succeeding three years.

41. The rates of 'Batta' for men of different grades of pay, when that term is used for cutting their pay during sick leave or days of harakaths (obstruction to work), etc., are shown hereunder:—

When the pay is from				the deduction will be
Rupee	1 to	Rs. 8	...	1 anna
Rupees	9 to	,, 15	...	2 annas.
,,	16 to	,, 25	...	3 ,,
,,	26 to	,, 35	...	4 ,,
,,	36 to	,, 45	...	5 ,,
,,	46 to	,, 60	...	6 ,,
,,	61 to	,, 80	...	8 ,,
,,	81 to	,, 100	...	10 ,,

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42. *Pensions.*—The permanent subordinates of the Field Establishments are entitled to the pensions and gratuities admissible under the Mysore Service Regulations.

43. *Travelling allowance.*—The officials of the several field establishments will be given Railway fare and mileage according to the Mysore Service Regulations for the first outward and last return journeys and also for the journeys from one taluk to another in the same field season. In addition to this, they will draw during the field season permanent monthly allowances as noted below:—

(i) Surveyors of—			
(a) Classing Establishments		Rs. 20	per mensem.
(b) Measuring Establishments		15	,,
(ii) Classers	...	7	,,
(iii) Karkoons	...	5	,,
(iv) Measurers	...	5	,,
(v) Peons	...	2	,,

These allowances will be increased by 50 per cent when the Establishments are working in the Malnad.

44. *Travelling days.*—In cases involving a change of station under orders, Measurers and Classers are allowed time for the journey according to the provisions of the Mysore Service Regulations.

45. *Advances to Field Establishments.*—Officers in charge of Field Establishments may, during the field season, grant to their subordinates advances not exceeding one month's pay, the same being recovered in three equal monthly instalments.

(vi) *Appointment and Duties of Surveyors.*

46. *Appointment of Surveyors.*—A Surveyor will be attached to each Field Establishment and the Assistant Superintendents are competent to recommend the best Measurer or Classer available in the Establishment on the ground of service, character, ability in managing the subordinates and general conduct.

47. *Duties of Surveyors.*—Surveyors may be deputed for such duty as the Assistant Superintendent may think proper, reserving to himself full control over his Establishment. They should submit their diaries of work regularly.

48. *Errors noticed by Surveyors in test work.*—Failure to report errors disclosed in test work or other irregularities will be considered to render a Surveyor unfit for the post.

(vii) *Miscellaneous.*

49. *Supply of forms, stationery, etc.*—While working in the field, Measurers and Classers will be supplied with blank field and pakka books and printed forms. They will be allowed a contingent allowance of 2 annas per month for providing them-

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selves with a book for the entry of reports and letters and with the other articles of stationery.

The book for entering reports, replies to endorsements and letters, must be written neatly and shown to the Assistant Superintendent whenever he visits the villages at which the Measurers or Classers are employed, or sends for them to his camp in order that he may see whether or not it is properly written.

50. *Return of papers and dead stock.*—Before proceeding on leave or on transfer, Measurers and Classers should submit a detailed report of Survey papers and instruments returned to the Huzur.

51. *Durasti or correction work.*—When a Measurer or Classer is deputed for Durasti work to a taluk in which the measuring and classification operations have been completed, he is entitled to a monthly batta amounting to 30 per cent of his salary provided that the Durasti work done by him is reported to be satisfactory.

If, in the course of tapasani or examination it be found that the Durasti work was not done with care and according to rules, the Measurer will be reduced, as mere fines cannot be considered to be sufficient punishment. As a general rule, capable and senior measurers should be selected for Durasti work.

52. *Measurers to be examined in Theodolite Survey.*—Measurers drawing Rs. 20 and above should be annually examined by the Assistant Superintendent in Theodolite Survey and the result reported in the prescribed form (No. 65) to the Deputy Superintendent.

53. *When Measurers are to be reduced as learners.*—For reasons to be recorded in writing and communicated to the Deputy Superintendent, a learner promoted as Measurer may be reverted by the Assistant Superintendent within three months of his first appointment as Measurer. The reduction of the same official a second time requires the sanction of the Superintendent.

54. *Procedure when Measurers or Classers threaten to resign.*—When members of the Field Establishment threaten to resign, if the leave applied for is not granted, the officers in charge should place such officials under suspension and report the circumstance to the Deputy Superintendent.

55. *Procedure to be adopted when serious allegations are made against members of Field Establishments.*—When an Assistant Superintendent has reason to believe that there is truth in any serious charges made against his subordinates or finds on inquiry that they are well founded but time is required to complete the preliminary inquiry, he may place the official concerned under suspension in anticipation of sanction and report the same to the Deputy Superintendent.

56. *Assistant Superintendent's report on allegations made against members of Field Establishments.*—When Measurers,

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Classers or other members of Field Establishments are recommended for dismissal or other severe punishment, the Assistant should submit in English—

(1) the charge laid against the measurer,
(2) a statement of the evidence,
(3) his recommendation together with the explanation of the Measurer concerned and all the Vernacular papers connected with the case.

57. *Bandh peons for phode and miscellaneous work.*—When Measurers are deputed for phode or miscellaneous measurement work, no bandh peon should be appointed without the Superintendent's sanction.

CHAPTER IV.

Recruitment and Training of Subordinates for Field Establishments.

58. The Rules for recruitment of subordinates for Field Establishments are regulated by the Clerkship Rules published with G. O. No. 152—E. A. G. 40, dated 5th March 1917.

59. *Power of the Superintendent to grant exemptions.*—If after due advertisement in the Mysore Gazette, eligible candidates do not offer themselves for employment in the Survey Department, the Superintendent is empowered to grant exemptions from passing the prescribed tests in the case of acting and permanent appointments.

60. Applicants for employment in the Field Establishments must be prepared for continuous hard work in the field for 7 or 8 months in the year. No candidate will be considered to be eligible in a Survey Establishment until he can prove at a preliminary examination that he possesses a good physique and strong eye-sight, that he can read and write Kannada well, that he is fairly good in Arithmetic and that he bears a good character.

61. *Training of recruits.*—Recruits intended for field duties will be trained for not less than one year on such conditions as may be prescribed from time to time. A learner who has not made satisfactory progress during his course of training will be liable to have his name removed from the list.

62. *Pay of the learners.*—The Shiknars or learners should be started on Rs. 7 per mensem and given Rs. 10 during training and then Rs. 12-15 as Probationary Measurers until they are eventually confirmed on Rs. 20.

63. *Training of Measuring Learners.*—Learners will be attached to Field Establishments and Assistant Superintendents in charge are responsible for making efficient arrangements to train them in all branches of field work. Before the course is begun, it will be the duty of the instructor-Measurer to explain to the recruit the principles of Revenue Survey and to see that

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he thoroughly understands them. Before the practical course begins, the measuring recruit will be instructed, among others, on the following points :—

(i) How to handle the cross-staff,

(ii) How to handle the chain and arrows and where to take his position with reference to the chain,

(iii) How to write tippans in the field and note measurements and topographical features,

(iv) The manner in which the flags should be held,

(v) Gunakar and writing up of pakka book,

(vi) Plotting,

(vii) Nature and size of boundary marks,

(viii) Completion of records.

64. *Training of classing learners.*—As capable Measurers are selected for training in classification, Assistant Superintendents in charge of Classing Establishments will make suitable arrangements for training them.

65. *Employment of learners in the office during field season.*—Training of learners attached to Measuring or Classing Establishments should not be prejudiced by unnecessarily withdrawing them to the Assistant Superintendent's camp during the field season. No learner should be retained in the field heads quarters for more than one month at a time and Assistant Superintendents should see that the learners attached to the Establishment have equal opportunities of training to be derived from their test work.

66. When there is a sufficient number of learners in an Establishment, Assistant Superintendents may have two learners for his tests and the Surveyor may be allowed one. In case of special work requiring the presence of additional learners the circumstance necessitating the action taken should be reported in the monthly work statement.

67. *Periodical examination of learners.*—Assistant Superintendents should hold periodical examinations of learners in the commencement of February, April and June and the results should be reported in Form No. 66. The best time for holding the examination will be the days fixed for distribution of pay in those months.

68. In case of its proving inconvenient from distance or other special cause to examine any paid learner on the date fixed for examination, the name of the learner-absentee should be included in the result list, and the date of his last examination and reasons which led to his absence should also be explained therein. The absentee should be subjected to an examination at an early date and a supplementary report about him should be sent in the prescribed form.

69. *Subjects for examination.*—Measuring learners will be examined in the following subjects :—

(1) Knowledge of rules,

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(2) Writing a fair field book from a "Kachcha" field book,

(3) Plotting eight or ten contiguous numbers from a "Kachcha" book,

(4) Calculating area of at least two numbers of not less than five "Waslas" each, from the "Kachcha book,"

(5) General neatness.

70. (i) A learner who has undergone one year's training in field work should have a complete knowledge of work under the several heads so far as it relates to a district of average difficulty.

(ii) A learner who fails to pass an examination in the prescribed subjects after one year's training in the field may be removed or dismissed from the establishment. Additional time not exceeding one month may, however, be allowed in cases recommended by the Assistant Superintendent to pass the examination.

(iii) If a learner who is attached to a field establishment is found stupid, lazy and incapable of understanding work, his name will be reported for immediate removal.

(iv) No learner who is not competent to be promoted as a Measurer should be retained in the field establishment for more than two years except with the special sanction of the Superintendent.

(v) A learner who is found ill for 100 days or more in the course of ten months owing to weak constitution will be considered unfit for field work.

71. *Periodical examination of classing learners.*—The officers in charge of Classing Establishments will also examine their learners in the field, at intervals of two months, and report the result in the form prescribed. A season in the field should suffice to teach any learner classing, and any who have been regularly employed in learning in the field for that time and are not ready for employment as Classers should be reported to the Deputy Superintendent with an opinion as to whether there is any hope of their becoming qualified with additional time, which is not to exceed three months. Any learner who after learning for a reasonable time will evidently never make a classer should be reported at once, with a view to his removal to a Measuring Establishment, or dismissal.

CHAPTER V.

Departmental Business and Office Routine.

72. The Departmental orders summarised in this chapter are supplementary to Chapter I (Office routine) Chapter V (Petition Rules), Chapter VI (Postal), Chapter XI (Misconduct and punishment), Chapter XII (Public Servant's Conduct Rules) and

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Chapter XL (Miscellaneous) of the Manual of general circulars and standing orders issued by the Government.

73. *Inspection of office.*—The inspection rules prescribed in G. O. No. 44—E. A. G., dated 22nd February 1916, require that the officers in charge should inspect their offices once a year and submit the inspection reports to their immediate superiors within the prescribed dates.

74. *Opening of Tappals.*—Survey officers should arrange that every packet addressed to them is opened in their presence and that every document of whatsoever description bears their initials or signature before being placed among the records.

75. *Disbursement of salaries.*—As a general rule, salaries of Field Establishments should be paid in the immediate presence of the officers in charge who should explain to the parties concerned the reasons for making increases or deductions from pay, if any. Huzur Karkoons should not be entrusted with the payment to any members of the Establishment.

76. *Attestations of alterations in field books, accounts and other records.*—Every order affecting any of the entries in the Measurer's or Classer's field books, office accounts and records should be quoted and signed by the officers in charge where necessary.

77. *Custody of Survey Records.*—Measurers' and Classers' books and other records should not leave the custody of the Survey officer to whom they are entrusted for the time being and if these documents are required to be produced before a court, they must be sent up in the custody of a Survey officer duly empowered by the Superintendent in this behalf.

78. *Karkoons, Measurers, etc., not to correspond without authority.*—Huzur Karkoons, Measurers, Classers and other subordinate employees of the Survey Department are not permitted to write to each other or to the District officers or to any one else, *on public business*, except on every urgent occasions; and then, as also, when official communications are received by them, they must immediately inform the Assistant Superintendent, and mention the subject of the letter written or received. In short survey officials are prohibited from having any communication on public business with any one, without informing the Assistant Superintendent under whom they are doing duty.

79. *Verbal conversations.*—Verbal conversations with the Superintendent or the Deputy Superintendent should not be referred to in official correspondence and no action should be taken upon such verbal orders before obtaining written orders on references formally made.

80. *Procedure to be observed when Huzur Karkoons are transferred or proceed on leave.*—Before permitting Huzur

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Karkoons to hand over charge of their office, the Officer in charge should satisfy himself that all papers, registers and dead stock entrusted to the officials have been accounted for by them.

81. *Entertainment of dismissed peons.*—Huzur and bandh peons dismissed in one Dafter should not be re-employed in another Dafter or office.

82. *Transmission of Survey Records.*—Field books, maps, Bagayat Takhtas and other important documents should always be sent by registered Parcel Post.

83. *Unserviceable dead stock.*—Unserviceable dead stock should be sent to the Headquarters office before the 25th July of every year.

84. *Prevention of the ravages of white ants.*—With a view to prevent the ravages of white ants, the record boxes should be well tarred every year with two or three coats in the bottom and the sides to a height of six inches. This is most conveniently done during the field season. The officers in charge and the Huzur Karkoons will be held responsible for damages caused to records.

85. *Petition Rules.*—Petitions should be received and disposed of under the rules prescribed in G. O. No. 8721-70—G. M. 33-14-1, dated 11th February 1915, as amended by subsequent G. O. No. 2542-91—E. A. G. 209, dated 12th June 1918.

86. *Indents for medicines.*—The care of the health of field party is a most important matter and one which should receive the greatest attention of the officers in charge. In cases of illness, patients should be sent to the nearest Hospital. It is also necessary for every officer to equip himself with a small medicine chest. Indents for medicines required by Field Establishments should be submitted to the Deputy Superintendent for sanction and transmission to the Superintendent of Medical Stores.

87. *Bandh Accounts.*—The first Karkoons should be held responsible for getting the bandh accounts prepared and transmitted in time. The bandh book, maji Pymayishi account and the vouchers obtained from the bandh peons must be stitched up together in book form.

88. *Karkoons to be trained in measurement.*—The second and third Karkoons of Measuring Establishments, when in the field, should learn measurement work in addition to their duties and their passing the prescribed examination along with the measuring learners will be considered a special qualification for promotion.

89. *Transfers from one Dafter to another.*—On the transfer of an official from one Establishment to another, the English and Kannada Service Registers, Character and State Life

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Insurance Premium books of the official concerned should be sent with a covering letter to the head of the office to which he is transferred. Particulars regarding pay, recoveries, if any, to be made from the transferee's salary should also be specified.

90. *Charges for conveying dead stock.*—When Measurers or Classers are ordered to take cross staffs and chains with them from Bangalore to the field or back, Assistant Superintendents are authorized to pay them cooly hire at the rate of one anna per *cos* of three miles. Should the officials be put to any extraordinary expense on this account the matters may be specially reported for orders. Theodolites are not included in the dead stock referred to in this paragraph and their carriage is paid for and charged by the Assistant Superintendents to the head of contingent expenditure.

91. *Verification of Service Registers, etc.*—All entries regarding promotion, leave, etc., should be initialled by the Head of the office at the time of passing his Establishment pay bill as required by the certificate on the bill and this work should never be postponed to a future date. The verifications of Service Registers and the annual schedule have to be certified by the Heads of Offices once in every year.

92. *Fines for errors in measurement disclosed during classification.*—Measurers may be fined at the discretion of the officers in charge for errors disclosed during classification operations.

93. *Representations to the Superintendent or Deputy Superintendent.*—Subordinate officials in the Survey Department are prohibited from making representations direct to the Superintendent or Deputy Superintendent. Petitions from subordinates should be forwarded through the Assistant Superintendents in charge of Establishments to which they belong with a request that they may be forwarded and the Assistant Superintendent will forward them with any remarks he may think necessary.

94. *Joint Representations.*—Joint representations by Classers, Measurers or other subordinates by waiting on the Superintendent are prohibited.

95. *Razinamas.*—While submitting the resignation reports tendered by Measurers, Classers, or Karkoons, the officer in charge has to note the general past conduct of the official, the date of his first appointment, his present pay together with his opinion as to the propriety or otherwise of accepting the razinama.

96. *Transmission of Theodolites for Deputy Superintendent's inspection.*—Theodolites and instrument boxes should be sent to the Deputy Superintendent for inspection once a year soon after the return to Bangalore of Field Establishments for the Monsoon Season.

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97. *Miscellaneous.* —Other points of office routine are summarized below :—

(1) As soon as the programme of field work is received from the Deputy Superintendent, the Assistant should take steps (1) to issue the preliminary notices of the commencement of Survey operations in Forms Nos. 15, 32 and 36 to Taluk Amildars for being served on villagers concerned,

(2) to get in time the village papers, stock of stationery and forms and instruments from the Head-quarters Office,

(3) to issue the village papers so that the field work may be commenced on the date prescribed in the Field Programme, and

(4) to sign and issue the Bandh notices, and it is also his duty at all times,

(5) to keep the Establishment and office staff efficient and up to its full strength,

(6) to be constantly watchful that all rules and orders of the Department are strictly carried out,

(7) to dispose of promptly all reports and correspondence,

(8) to see that official correspondence is kept down as much as possible and to discourage any tendency on the part of subordinates to increase clerical work,

(9) to test the required percentage of field and barasathi work and to satisfy himself generally that no incorrect record bears the Assistant Superintendent's signature, and

(10) to see that the village papers are sent to the Record Office on the due dates.

98. *Arrangement, preservation and destruction of records.*— The rules regulating the arrangement, preservation and destruction of records in the Survey Department are printed hereunder :—

RULES FOR THE ARRANGEMENT, PRESERVATION AND DESTRUCTION OF RECORDS IN THE SURVEY DEPARTMENT.

The records of all the offices of the Survey Department shall be preserved in the record-rooms of the Survey Head-quarters office, which is also known as the Survey Record Office.

2. All completed records and files of papers shall be sent to the Record Office by the respective offices of the Department properly arranged, stitched and provided with facing sheets and lists of contents. Lists of contents shall be put up with the record of every file as it originates or is begun to be formed, and each paper will be entered in the list as it is filed with the record. Incomplete and undisposed of files should not under any circumstances be sent to or received by the Record Office for custody.

3. It shall be the duty of heads of branches or Huzur Head Karkoons, as the case may be, to see that papers are arranged in proper sequence and entered in the list of papers, as a file is

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being formed, so that when the file is complete, it may at once be sent to the Record Office.

4. At the end of each month, the officers above mentioned shall satisfy themselves after examination that all records disposed of during that period are properly arranged, stitched and provided with facing sheets and lists of contents.

5. The records of the offices of the Survey Superintendent and Deputy Superintendent shall be sent to the Record Office at the end of every calendar year. They shall be accompanied by a list of the records so transmitted, which shall be returned by the official in charge of the Record Room with due endorsement of receipt. The head of any office, however, may retain in his office for any longer period such of the records and files as may be required by him.

6. The records of the Head-quarters Office proper shall also be sent as prescribed above for custody in the Record Rooms.

7. Records and papers of Field Establishments shall be forwarded to the Record Office during the monsoon season as specified below :—

(1) All survey records of such of the resurveyed villages as are completed should be sent at the end of every month on the week days specified hereunder or on the next office day when any of these happens to be a holiday.—

Last Monday	...	A Establishment
Last Wednesday	...	B Do
Last Friday	...	C Do
Last Saturday	...	M Do

(2) The Assistant Superintendents should satisfy themselves as far as possible that no survey records of any resurveyed village remain uncompleted at the close of the monsoon season.

(3) All files of papers disposed of during any year should be sent for custody in the Records Office before the Establishments leave the headquarters for field work in that year.

8. Registers should be maintained in the offices of the Superintendent, the Deputy Superintendent and also in the Head-quarters Office, to show what papers were sent and when they were sent to the Record Rooms for custody and what papers were retained in the office under the orders of the officer in charge.

9. Field Establishments shall continue the present system of forwarding papers with pherists in duplicate, one of which shall be returned to the officer concerned with due acknowledgment of the receipt of papers. The pherists will ultimately be filed in the Record Office along with the other records of the establishments.

10. All records received for custody in the Record Office shall be entered in a register maintained for the purpose and arranged as indicated below.

11. The accompanying list shows what records are to be permanently preserved and what preserved for definite periods.

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12. Separate shelves in the record racks shall be allotted for different classes of records as noted in the list referred to in the preceding rule.

13. Among the records to be permanently preserved, the following shall be arranged by villages according as they relate to original survey and settlement or to revision survey and settlement :—

1. Tippan, Pakka and Prati books,
2. Registers (statements of measurements and classification details regarding each survey number in a village), Darwar is and Bagayet Takhtas,
3. Kachcha, Pakka and Nakkal Nakasas,
4. Sarasari Patrikas,
5. Akarbands and Faisal Patrikas,
6. Rajinamas,
7. Mutchalikas.
8. "A" Form or Kammi Jasti of survey numbers.

A list of villages arranged according to hoblis and serially numbered shall be maintained for each taluk. Records arranged according to villages should be entered under different headings in this list or Dehajhada, which serves as an index to such records.

The remaining records of the class referred to in this rule, shall be classified according to subject matter and arranged chronologically. Each file should be complete in itself and contain all the papers bearing on any single subject, properly arranged and stitched into a book with a thick outer cover and a list of contents.

All these records will be preserved in daftars and each daftar will have a list of records contained therein.

14. Records preserved for definite periods shall be classified according to the periods of preservation, so that the papers of each class may be kept together and placed in daftars in the shelf or shelves allotted for the class. They should be arranged according to years and subjects in order to facilitate the picking up of references and the destruction of time-expired papers. Rearrangement according to periods of preservation need not be insisted upon in cases where classification by villages with a subsidiary chronological or other arrangement has been adopted.

15. Accounts, Registers, Periodical returns, Gazettes and similar papers should as far as possible be kept in separate daftars.

16. The daftars shall be numbered and registers maintained to show the files contained in each daftar.

17. When papers are required from the Record Room for reference, official requisitions shall be made and papers so required will be sent after entering them in a register maintained for the purpose and placing slips in the daftars indicating the paper removed and the purpose for which it is removed. The

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receipt of the papers shall be acknowledged by the officer or official to whom they are furnished. When they are returned the fact will be noted in the register and the papers restored to their respective daftars, the slips placed for them being removed. The slips should be returned or intimation otherwise given of the restoration of the papers, to the officer or official concerned.

18. Records, books, papers and registers chosen for destruction should be burnt in the presence of the officer in charge of the Record Office who will obtain the previous orders of the Superintendent, Revenue Survey, for such destruction on lists describing them previously submitted to him. A register shall be kept of all such records destroyed, giving briefly the substance of the records and their dates, and noting the last "To" or "From" number, if any. A note of destruction shall also be entered against the respective entries of the papers they relate to in the "From" and "To" registers.

19. Records shall be destroyed once a year only in the month of March. The destruction made in March in any year shall comprise papers, which have passed their time limit calculated from the calendar year of their disposal.

20. Any document which may at any time be found on personal inspection by the officer in charge of the Record Office to have become entirely useless or illegible by age or become useless from other causes may, with the sanction of the Superintendent, Revenue Survey, be destroyed, a memorandum of the fact being kept in its place, together with a copy of the document prepared afresh where this is possible, or with the summary of its contents, if ascertainable, signed by the Superintendent.

21. Important documents, and especially such as are crumbling through age, should be separated from the files to which they belong and preserved carefully in a box, an accurate copy, signed by the Superintendent, being substituted for them in the file.

22. The Survey Superintendent may in his discretion direct the retention for a longer period or permanently of any records included under classes II to VI in the appended list for any special reason. Similarly the Superintendent may, at his discretion, order the destruction of such records as are of a purely routine character though included in class I.

23. The Record Room shall be regarded as a confidential section of the Survey Office, and no one except officials having business there in the usual course shall have admission without the specific permission of the Officer in charge of the Headquarters Office.

24. Inspections, searches, and the granting of copies shall be governed by Rules 107 to 118 of the Mysore Land Revenue Rules.

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LIST OF PAPERS.

I. To be preserved Permanently.

1. Papers relating to the formation of the Survey Department in Mysore.
2. Papers relating to the formation, increase and reduction of establishments.
3. Government Orders issued to the Survey Commissioner or Superintendent and correspondence relating thereto on all matters of importance, pertaining to the Revenue Survey and Inam Departments.
4. Correspondence leading to the issue of circular orders.
5. Files and books of circular orders.
6. Office order book.
7. Correspondence including petitions, leading to the issue of General Departmental orders or instructions.
8. Papers relating to Coorg Survey.
9. "To" and "From" Registers.
10. Papers relating to Mysore Traverse and Trigonometrical Survey.
11. Personal files of Survey Officers.
12. Consolidated schedule of establishments.
13. Pay bills of establishments.
14. Bandh Amanat Accounts of taluks in which amounts are outstanding.
15. Khates and Kirdis (Ledger, Cash and Current accounts).
16. Tippan or measurement books.
17. Pakka books.
18. Prati or classification books.
19. Papers relating to the jantries to be adopted by classers.
20. "A" form, *i.e.*, kammi jasti of survey numbers.
21. Kachcha maps.
22. Pakka and Nakal maps.
23. Classwar Patrike.
24. Milewar Patrike.
25. Sarasari Patrike.
26. Pakka registers.
27. Bagayet takhtas.
28. Boond Bagayet takhtas.
29. Alve Bagayet takhtas.
30. Kan Patrike.
31. Jantries.
32. Pakka Darawaries.
33. Akarbands.
34. Faisal Patrikas.
35. Raddipans of Akarbands.
36. Raddipan registers.
37. Akarband kammi jasti Patrikas.
38. Gunakar Tapasani Patrikas.

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39. Atchkat registers, talukwar and districtwar.

40. Compilations and abstracts prepared from general statistical returns received from taluks.

41. Papers relating to Chattram, Amarayi and Amrit Mahal Kavals.

42. Papers relating to territorial changes.

43. Gadi Rajinamas and papers relating thereto; also registers of settlement of village boundaries.

44. Papers relating to the settlement of British frontier boundary.

45. Papers relating to the absorption and amalgamation of villages.

46. Correspondence relating to sub-division, classification and other Duraste work, involving the correction of survey and settlement records.

47. Muchchalikas obtained from raiyats for the sub-division of lands and for formation of survey numbers.

48. Papers relating to the appropriation of lands for cultivation, communal, forest and other purposes.

49. Papers relating to the grant of lands for coffee and cardamom cultivation and issue of title-deeds; also papers relating to the grant of lands for cultivation of special economic products.

50. Coffee suds.

51. Papers relating to the remission of garden assessment in the malnad.

52. Papers relating to private enterprise tanks.

53. Papers relating to the valuation survey of inam villages.

54. Sagu and Banjar Takhtas of inam villages.

55. Excess Tarav Takhtas of minor inams.

56. Correspondence and statistics relating to excess Tarav, including Wahiwat Takhtas.

57. *Ad-interim* and Final Quit-rent Registers (corrected up-to-date).

58. Potgi Takhtas, statistics and correspondence relating thereto and also to the splitting up and formation of shanbhogi charges.

59. Papers containing opinions expressed by the Survey Superintendent on important matters referred to him.

60. Annual Progress Report of the Department.

61. Survey settlement and re-settlement reports, with (1) special reports, if any, of classing and other officers, (2) opinions of Revenue Commissioner and District Officers and (3) orders of Government sanctioning rates.

62. Notification of survey guarantee and correspondence relating thereto.

63. Special reports on the maintenance of boundary marks and co-operation of Revenue Officers in survey work.

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64. Circulars, rules, books, and printed papers of importance including (1) Monthly proceedings books, (2) Representative Assembly Proceedings, (3) General Administration Reports, (4) Annual Administration Reports of Departments, (5) Selections from the Records of Government and (6) Budget Estimates.

65. "Mysore Gazette" (two copies each of English and Kanarese issues).

66. Registers, lists and indexes of records, received preserved and destroyed from time to time.

67. Register of dead stock and papers relating to their disposal.

II. To be preserved for thirty years.

1. Papers connected with the examination of Survey Officers and Subordinates.

2. Papers relating to the grant of leave to officials, or to their appointments, promotions, punishments, dismissals, transfers and retirements.

3. Qualification roll of Field Establishments—to be filed in the Deputy Superintendent's Office.

4. Papers relating to the arrangements made for surveying inam villages, sub-dividing lands, and classifying them and for inspection of boundary marks, at times other than survey or re-survey.

5. Phodi Durasti Patrikas.

6. Lists of Misrit numbers.

7. Papers relating to the boundary mark charges and bandh books.

8. Papers relating to Revenue Sub-Divisions under the old Land Revenue Rules.

9. Orders, petitions, reports, letters and books and files of miscellaneous papers of importance.

III. To be preserved for ten years.

1. Contingent accounts and papers connected therewith of individual establishments.

2. Registers of service stamps.

3. Register of miscellaneous work allotted to field establishments.

4. Papers relating to the entertainment, leave, etc., of temporary officials.

5. Counterfoils of cheque books.

6. Register of verification of cash balances at Taluk Treasuries at the credit of Survey Officers.

7. Statements of annual accounts of receipts and expenditure of the Department.

8. Uncurrent service books.

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9. Papers relating to the supply of information from Survey records to Deputy Commissioners and other officers of Government.

10. Periodical reports and returns of importance and office copies thereof.

11. Papers relating to the indent, issue, etc., of stationery articles.

12. Schedules of establishments of individual offices.

13. Abstracts of pay bills, Pakka and Kachcha.

14. Atchkat Registers, villagewar.

IV. To be preserved for two years.

1. Returns and reports of work done by field establishments.

2. Correspondence relating to the correction of mistakes found in survey work during classification.

3. Monthly returns of work submitted by measurers and classers.

4. Requisitions for original records and references.

5. Papers relating to transmission of Akarbands, Faisal Patrikas, maps and other records.

6. Distribution and gradation lists of field men and officials of the Department.

7. Nikale Patrikas (Lists of papers disposed of and arrear lists).

8. Diary of work or Roz-nishi.

9. Statements of monthly accounts.

10. Requisitions for advances for expenditure by Survey Officers.

11. Office copies of applications for letters of credit.

12. Quarterly statements of accounts of printed forms and stationery.

13. Papers relating to the indent and supply of service stamps.

14. Issue books.

15. Registers of fees recovered for copies of maps and survey records.

16. Statements of allotment of work to measurers and classers and their reports on the completion of work.

17. Registers of stamps returned to petitioners.

18. Attendence Registers and Pattis.

19. Tappal books, and peon or delivery books.

20. Verification statement of monthly accounts.

21. Intimation Yadis of salaries drawn by officers.

22. Periodical reports and returns on miscellaneous matters of no important interest and office copies thereof.

23. Orders, petitions, reports, letters, and books and files of miscellaneous papers of no permanent value or interest.

24. Papers relating to programmes of work.

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25. Daily, weekly and fortnightly returns of work done by measurers and classers.

26. Papers relating to Court summonses for survey records and for personal service.

27. Register showing the days spent by members of Field Establishment when called on by Survey officers for office work.

V. To be preserved for three years after settlement.

1. Correspondence relating to the collection of statistics for purposes of settlement and progress reports of Pot Pahani work.
2. Nimtan Gunakar books.
3. Test field books and test returns.
4. Mojani sud.
5. Pahani sud.
6. Kachcha Darawari.
7. Talc square book.
8. Chuki yadis.
9. Mojani plots.

VI. To be preserved until next settlement.

1. Jamabandi Tippani books.
2. Papers relating to the instructions issued for giving effect to Survey Settlements.
3. Statements of tanks received by the Classing Officer at the time of classification.
4. Prati Phodi Patrikas.
5. Papers relating to the imposition, levy and consolidation of water rates.

CHAPTER VI.

Records Office.

99. The Survey Records Office is the Central Record Office of the Revenue Survey Department. It is placed under the control of an Assistant Commissioner and is divided into six branches. This office deals with all indents received from the Survey Officers, for stores, stationery and records. Printing of maps, correction of Survey records and preparation of Akarbands are attended to in this office. The six branches of the office comprise :—

(1) The Huzur Branch including stores and stationery,
(2) Durasti,
(3) Akar,
(4) Drawing including the Draughtsman section and Litho Press,
(5) Map Records and
(6) General Records.

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The Huzur Branch.

100. This Branch deals with all personal questions relating to the officials of the office, and is in custody of cash and accounts. All incoming records are taken delivery of and then distributed to the several branches concerned for disposal.

The Durasthi Branch.

101. All records relating to sub-division of survey numbers and other changes occurring in the field, boundary disputes, amalgamation or separation of villages, and all corrections of survey papers are dealt with in this branch. The following paragraphs define the scope of work of this branch :—

(*a*) *Correction of errors found during Pot Phani.*—When any reference is made regarding discrepancies found during Pot Phani in respect of survey area as recorded in the "Sud," the matter should be thoroughly examined by looking into the records of measurement, and if it be ascertained that any mistake has been committed, it should be rectified by a reference to the Superintendent, if necessary.

Any doubt arising in the original map in the course of preparing Press copies for litho printing, should be investigated in this branch with reference to the original records.

(*b*) *Disposal of Phodi Records.*—Phodi Records should be examined with a view to see whether the sub-division has been effected in accordance with the orders passed in this behalf, and whether the Tippan and Pakka books and "Samjuti Patrika" have been properly prepared and the sub-division properly shown on a copy of the map that accompanies the records. The measurement and the sub-division marked on the map should be carefully checked and verified.

If a discrepancy exists between the original measurements and those of the sub-division, it must be pointed out to the authority under whose orders the sub-division was effected and the mistake rectified. A copy of the original measurement Tippan should be sent with the records for reference.

(*c*) *Disposal of Phodi Records of villages not resurveyed.*—The sub-divisions effected in villages not resurveyed should be incorporated in the original Pakka and Prati books and katcha maps of the villages concerned, by showing the sub-divided portion in the sketch of the original number in red ink, and the area by deducting that of the sub-divided portion from the original area. A remark should be made in each case indicating the number and the date of the Superintendent's order directing the sub-division, in all the original records referred to above. The official making these corrections should sign his name and note the date of correction. At the end of the Prati book, the new number should be shown with particulars in red ink, of the khatedar, the different *babs*, and the extent thereof.

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(*d*) *Phodi Records of Resurveyed villages.*—In the case of sub-divisions made in villages in which resurvey and reclassification have been completed, the processes above mentioned should be adopted, the resurvey Tippan, Pakka and Prati books and maps, as well as the original Prati books being corrected.

The sub-division Tippan and Pakka books will be stitched along with the original or resurvey Pakka books, as the case may be.

(*e*) *Fixing of assessment on lands sub-divided out of unassessed or cultivable waste.*—The rate of assessment on all lands sub-divided in kharab survey numbers will be fixed by the Superintendent.

In the case of lands sub-divided in assessed survey numbers, the assessment may be fixed in accordance with the classification value of the compartments comprising the sub-divided land. If the classification value of the sub-divided portion is the same as that of the whole number, the rate of assessment fixed on the whole number should be adopted, but in case they should differ, a statement showing the difference should be prepared and submitted to the Superintendent for fixing the rate of assessment. The classification value of the sub-divided portion should be worked out on the basis of classification value in the different compartments of the whole number as indicated in the Prati book.

(*f*) *Sub-division made by District authorities.*—When both sub-division and classification are carried out by District Surveyors or Taluk measurers, a supplemental Register should be prepared after carefully checking the classification values of each sub-divided number.

In preparing this new Register, the classer's akar should be determined by a reference to the soil value, the water class, and the classer's jantri, applicable to the village. This Register should be submitted to the Superintendent, for fixing the rate of assessment on the sub-divided lands. On the completion of correction work as above detailed, and the determination of the rate of assessment, the particulars relating to the sub-divided numbers should be noted in the original records, and the statement of correction (Durasti Patrika) passed on to the Akar Branch for the necessary rectification of Akarbands.

(*g*) *Corrections made in katcha map to be transferred to printed maps.*—The corrections made in the original (katcha) map should also be incorporated in the printed maps in stock, which should be obtained from the Map Records, and also in the maps supplied to the District and Taluk Offices and the Village Officers, which should be obtained direct from the authorities concerned. After making the necessary corrections, the maps should be returned direct to the respective offices or officers. The 'Samjuti Patrika' should be retained in the Branch for reference.

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(*h*) *Sub-divisions of lands for coffee, cardamom and rubber cultivation.*—Records relating to the sub-division of lands for purposes of coffee, cardamom, rubber or cinchona cultivation should be dealt with as in the case of ordinary lands, and the lands included in the Coffee Register.

(*i*) *Amalgamation of villages.*—When orders are received for the amalgamation of two or more villages into one, all the survey records connected with the villages should be obtained, and steps taken to stick them together into one map. If this is found to be inconvenient, owing to the kacha maps being unserviceable, a new map comprising all the lands of the villages should be prepared. All the Survey Numbers of the amalgamated villages should be renumbered consecutively under the measuring rules. A note of the villages amalgamated, and the authority under which the correction was made should be made on the map. The names of the villages on the border of the new village formed by amalgamation should be carefully written on the boundary of the village, and the corresponding alterations should also be made in the maps of the bordering villages.

(*j*) *Particulars of amalgamation to be noted on printed maps.*—Copies of maps in the District and Taluk Offices and those with the Village Officers concerned should be recalled direct from the officer or officers and corrections noted therein or if this be not possible, new maps should be issued. The printed maps of the villages in stock in the Map Records should be dealt with similarly. Intimations of all such amalgamations should be given to the Draughtsman to enable him to alter the Taluk and District maps preserved in the Record Office.

(*k*) *Alterations to be noted in Field books and records pertaining to amalgamated villages.*—The Tippan, Pakka and Prati books of the amalgamated villages should be stitched together and a note made as to what villages have been combined, and the name of the new village should be written on each book. The old numbering in the Prati and Pakka books should be cancelled and new numbers as given in the new village map should be substituted in the field books. A register of villages thus combined should be kept in the Branch for reference. All the Akarbands of the amalgamated villages should be stitched together and renumbered according to the numbering adopted for the new village, and handed over to the Akar Branch for the rectification of Akarbands, together with a statement showing the particulars of amalgamation.

(*l*) *Splitting of villages.*—Maps of villages to be newly formed out of existing villages should be prepared by a reference to the original map or maps comprising only such of the Survey Numbers of the latter as should go to make up the new village or villages. The numbering in these new maps should be independent of each other, and marked consecutively under the measuring rules. The names of villages bordering on the new

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villages should be noted on the maps. In short, all the formalities required to be observed in amalgamation work should be adopted in this case also, except that the Prati, Pakka and Tippan books and Akarbands should be separated, and named differently, to correspond with the new maps.

New villages formed out of a few survey numbers taken from two or more villages should also be dealt with in the manner above laid down.

(*m*) *New roads and railways to be shown on the village, Taluk and District Maps.*—Intimation should be given to the Draughtsman in the case of formation of new roads and Railways for making corrections in the Taluk, District and Provincial maps.

(*n*) *Boundary disputes.*—When a reference is received from the Superintendent on any point relating to boundary dispute, all the survey records connected with the subject should be carefully examined and submitted with a report and sketch.

The Akar Branch.

102. The main items of work done in this branch are:—

The preparation and correction of Akarbands and of copies of 'Faisal Patrikas' to be sent to Taluk Offices. This Branch is divided into two sections, *viz.*, (i) for the preparation of the Akarbands and (ii) for the preservation of the originals or Akar Records of the Branch.

(*i*) *Akarband preparation section.*—The following is the description of work generally carried out here:—

(1) Preparation of fresh Akarbands for settlements, etc.

(2) Preparation of copies of Faisal Patrika or Settlement Register.

(3) Correction of Akarbands.

(4) Preparation of Atchkat or area statements.

(5) Miscellaneous work such as supplying of copies to private parties, etc.

Preparatory to the introduction of settlement (original or revision) into a tract, new Akarbands of villages comprised in the tract are prepared, the preparation of copies of Faisal Patrik is undertaken as early as possible after the introduction of the Settlement. Items 3, 4, and 5 are dealt with at all times.

(*a*) *Preparation of fresh Akarbands for revision settlements.*—Akarbands of villages will have to be prepared in 3 sets, one to be lodged in the Records, one for the use of the District Office and the 3rd for the use of the Taluk Office concerned. Before Settlement is introduced, 2 sets will be prepared, the 3rd set being taken on hand subsequently. When intimation is received that a particular Taluk will be taken up for revision settlement and on receipt of orders from the Superintendent to send resurvey maps and Suds for Pot Pahani, one set of Suds should be sent to the Taluk Amildar and the other set transferred to the Akar Branch for the preparation of Akarbands. The preparation

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of Akarbands for settlement purposes should be treated as urgent work, and in order to compile the statements expeditiously, particulars of the Survey number and Babwar area should be taken from the Sud received in the Branch, and entered in the appropriate columns of the Akarband forms, which should be kept ready for entering the rates and assessment, when Pakka Darwaries are received from the Superintendent.

(*b*) *Instructions for filling up the Akarband statements.*—When the wet and garden lands in any village are less than five survey numbers, Khuski Form (Survey No. 137), and if they consist of more than five numbers Form (Survey No. 140) should be used. When the survey numbers and their extents have been entered, the total number and the totals of Babwar acres should be noted in the appropriate columns. The extent of village sites, roads, rivers, channels, etc., should be entered below the total area of survey numbers and a grand total struck at the foot of the two sets should be worked out independently of each other. They should then be compared and both copies should be attested by the examiner. The totals of each page should be entered and a note on the left hand side should be made as follows:—

ಪಹಣಿ ಸಂಖ್ಯೆಯ ಕೆಳಗಿಂದ ಮುಕ್ತರ ಭರಾಯಿಸಿ ಬೇರೀಜು ಮಾಡಿಯಿದೆ.

This should be attested by the compiler.

The name of the Village, Hobli, Taluk, and District should be written up clearly on the top of every page in the space provided for the purpose.

(*c*) *Preparation of Darawari statements.*—When orders are received from the Superintendent for the preparation of Akarbands of villages to be resettled, the Darawaries, Registers and Bagayet Takhtas should be called for, if they have not already been received from the Superintendent's Office. The Darawaries thus received are known as Pakka Darawaries and from these Katcha Darawaries or rough Akarbands are prepared as follows:—

From the Pakka Darawari of any village, the different survey numbers under each head of dry, wet, and garden coming under one and the same rate of assessment should be noted down. These groups of survey numbers should be arranged commencing from the highest rate and ending with the lowest. These figures should be entered in the Katcha Darawari noting the extent against each number as given in the Register, and the assessment from the tables of assessment (Akar Jantri) provided for the purpose. The total number of survey numbers under each rate, the totals of their extent and the total assessment worked out according to the tables of assessment should be entered under each group of survey numbers. An abstract of the totals under each rate of assessment should be inserted below each class of numbers and at the end, an abstract of all the three classes of land should be given. These Darawaries should be carefully prepared and properly arranged and stitched.

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Any discrepancy that may be found to exist in the Registers and Pakka Darawaries in respect of extent and rate of assessment should be checked by a reference to the survey records and the mistake rectified by making a reference to the Superintendent, if necessary.

(*d*) *Kachcha Darawaries to be checked.*—The Kachcha Darwaries prepared as above should be checked number by number, with the entries in Pakka Darawaries, Bagayat Takhtas and Registers. The extent of each number noted therein and the assessment thereof should also be scrutinized by a reference to the Register and the tables of assessment. A certificate to the effect that Kachcha Darawari is correctly prepared should be made by the checking official. The Kachcha Darawaries after being checked in the aforesaid manner, should be passed on with Pakka Darawaries, Bagayat Takhtas and Registers for filling up the remaining columns of the half completed Akarbands referred to in para (*b*) *supra*. All these papers should be carefully compared with one another, to see if the figures entered in the Kachcha Darawaries are correct and then the column of rate and assessment and Kayam (final) Akar should be filled up and totalled in the Akarband forms.

(*e*) *Instructions for the posting of Kayam Akar rates.*—The Kayam Akar should be determined with reference to the "Darsod" Tables devised with a view to rounding a figure. For instance, an assessment of Rs. 2-14-3, according to the Tables of assessment will have a 'Kayam Akar' of Rs. 3 under the Darsod Tables; an assessment of Rs. 2-13-3 will be rounded to a Kayam Akar of Rs. 2-12-0.

(*f*) When the preparation of the Akarband of a village is completed, the leaves should be stitched together, each page being numbered and sealed, and a note being made at the bottom of the Akarband as follows:—

ಪಾನು ಕ್ಕೆ ಆಂಕಿಹಾಕಿ ಮೊಹರುಮಾಡಿಯಿದೆ

The Kayam Akar entered in Akarbands should be checked by a responsible official with a view to see whether the Darsod Jantri has been properly applied in the case of each of the Survey numbers. A certificate to that effect should be made and signed by the official concerned. A slip containing the name of village, Hobli, Taluk and District should be filled up and pasted on the cover. The set, 1st or 2nd, to which the Akarband belongs should also be noted thereon.

The Akarbands thus prepared should be examined by the Head Karkoon in respect of area, rates, totals and assessments of garden lands on a reference to the register, Darawari and Bagayet Takhtas. These Akarbands should be tested by the Head of the office who will examine one in every 40 numbers or 2½ per cent at the least; but where mistakes are discovered the test should extend to a larger percentage.

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(*g*) *Preparation of the third set of Akarbands.*—The second set of Akarbands should be retained in the office and the first set sent to the Superintendent for settlement purposes. After the settlement, the third set of Akarbands should be prepared taking account of alterations to be effected in accordance with the orders of the Settlement Officer, and this will be sent on to the District Office. Corrections ordered during a settlement, should be carried out according to the instructions given under Akarband Durasti.

(*h*) *Preparation of copies of Faisal Patrikas or settlement Registers.*—A Survey Settlement takes effect in the year following that in which the rates are announced and the revised Taluk and village accounts will have to be prepared beforehand according to the settlement accounts. For this purpose the Settlement Officer should pass on the Faisal Patrikas to the Taluk Office as soon as the Settlement is completed. If within about 3 months after the Settlement, the Taluk Office does not prepare copies and return these Registers, they should be sent for; and copies of the same should be prepared by the Akar branch and forwarded to the Taluk for being lodged there, the original being retained in the office.

Where corrections are to be made in accordance with the orders passed during settlement in respect of any sub-division, etc., they should be carried out on a reference to the Akarbands and a remark to that effect made in red ink at the end of Faisal Partrikas. The rules provided for the use of printed forms for Akarbands are applicable also to the Faisal Patrika forms.

(*i*) *Corrections in Akarbands.*—Survey records have to be corrected to correspond with changes taking place in the field. The Akarband, being a very important Record, the original copy should be corrected by a responsible official, such as the Head or the second Karkoon of the Branch, which will then be passed on for the correction of the totals or 'Beriz Kayam'. The official correcting the Akarband should note at the end of the corrected Akarband the authority under which the correction was made and the reason which necessitated such alteration. All the corrections made should be checked by the Beriz Kayam Thapasanidar, who should also see whether they have been made in accordance with orders.

The Akarbands dealt with as above should be given over for the copying of only such of the leaves as have had to be corrected. If the District and Taluk duplicates of Akarbands are not received, they should be sent for and renewed as the original has been. The totals of each page so copied should be worked out in each Akarband independently and these totals should be compared. The totals of each page should be written at the end of each of these Akarbands and any remarks relating to corrections as found in the original copies should bear the signatures of the copyist and examiner.

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(*j*) *Preparation of Atchkat Register.*—Two Registers should be maintained for this purpose, one Villagewar and the other Talukwar. In the Villagewar Register, the name of the villages should be written up hobliwar and the whole extent of villages as noted in Akarbands should be entered against each. Hobliwar totals should be entered at the end of the Register, and an abstract of the totals referred to above should be prepared. A similar course should be adopted in the case of the Talukwar Register on the figures obtained from the Villagewar Register.

(*k*) *Provincial Atchkat statement to be annually sent to Superintendent.*—A provincial statement of Districtwar atchkat should be prepared in accordance with Government Order No. 4574, dated 11th December 1899 and submitted to the Superintendent in the month of July of every year.

The decrease or increase in the area due to Ruzuwath Gunakar, Phodi, Amalgamation of villages, error in measurements, should be incorporated in the Atchkat Register which should always be kept up-to-date. These corrections should be made in the case of resettled villages as soon as resettlement takes effect and in other cases as soon as Akarbands are sent to the District and Taluk Offices.

(ii) *Akar Records.*—All the rules pertaining to the General Records are applicable to the work in this section.

Drawing Branch.

Draughtsman Section.

103. All English sketches and maps should be prepared by the Draughtsman in this section.

104. *Verification of stock of Taluk and District maps every quarter.*—The stock of printed Taluk and District maps should be examined once in every quarter and if, in any case, the number of maps in hand fall short of 30, steps should be taken to have them reprinted and the stock replenished.

105. *Printing of Maps for Revision Settlement.*—The Taluk maps required for revision settlement should be brought up to date by showing all the topographical changes such as roads, railways, tanks, etc., and got printed by the Photo Zinco process. The printed maps should be coloured to indicate the groups into which the Taluk is divided. The maximum rates of dry, wet and garden lands for the different groups should also be quoted in a suitable place in the margin.

106. *Corrections to be noted on Topo Sheets.*—The topographical changes found in the field during re-survey operations of each year, should be brought on to the Topo sheets of the Office ; these should be submitted to the Superintendent by the end of January of each year, for being forwarded to the Chief Engineer,

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who after noting the corrections will return the originals to the Records office.

107. *Supply of Talc Squares.*—The Draftsman should prepare the required number of Talc squares on mica sheets, on requisition from Field Establishments and supply the same in time.

108. *Supply of Taluk maps for re-survey purposes.*—Maps should be prepared of taluks to be re-surveyed, as they stood at the original Settlement, and kept ready for supply to the Field Establishments.

Mapping Section.

109. "Press" copies of all village maps, and Departmental returns and forms, required to be printed by lithography, are prepared in this section on Litho Transfer paper.

110. *When should village maps be printed.*—Village maps are reprinted when the stock runs short, or when villages have come under revised settlement. When inam villages are brought under survey settlement, their maps are printed for the first time.

At the beginning of each month, the Head of the Map Records should furnish to the Mapping Section a list of villages, the maps of which have to be re-printed. The latter then takes steps to have the maps copied for printing by obtaining the originals from the General Records.

111. *Printing of maps of re-settled villages.*—On receipt of orders from the Superintendent in this behalf, the mapping section should at once take up the drawing of Press copies of maps of re-settled villages. A register should be maintained showing

(1) the number of villages re-settled,

(2) the number of maps which have been copied and printed,

(3) the number of maps which are on hand, and

(4) do do have not been copied owing to the non-receipt of Phodi Records.

112. *Rules for copying maps.*—The Head of the Mapping Branch should after obtaining the original maps from the General Records, distribute them among the mappers for copying, entering the same in the Distribution Register kept for the purpose. The date of distribution, the time allotted for preparing the copies, and the date of completion and return, should also be noted in this register. The following directions for preparing copies should be carefully noted by the mappers :—

(*a*) The originals should be handled with care.

(*b*) The transfer paper on which copies are prepared should be cut into sizes of the maps to be copied, and the points

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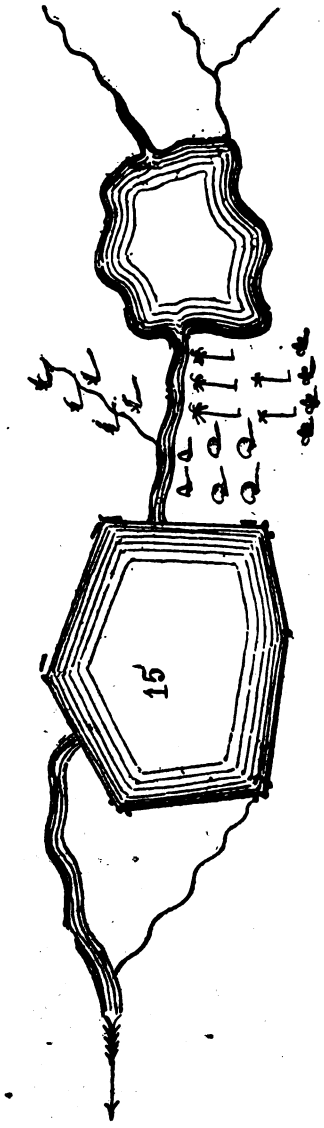
should be pricked off number by number, care being taken to hold the pricking needle straight and to make the pricks not unnecessarily large or too minute.



(*c*) The transfer ink should be prepared by rubbing the ink sticks which will be supplied from the stores, with a little of water on a glass or porcelain plate; the ink so prepared should be neither too thick nor too fluid.

(*d*) The topographical features, such as roads, nallas, temples, houses, wells, forts, etc., should be shown in exactly the same position as they occupy in the original. Temples, trees, etc., should be drawn with their tops correctly towards the north, they should therefore be drawn after ruling the paper in the direction of due north. No miscellaneous items such as buildings, trees, etc., should be shown in village sites, tank beds or roads. If a tank or a small number adjoins a village site, the boundary hedge may be shown in the latter.

(*e*) Cocoanut, Coffee, Cardamom, Areca, Date, Tamarind and forest trees, if any, should be shown clearly as far as possible.

(*f*) Streams running into and issuing from tanks should be shown as in the accompanying sketch.

(*g*) Water running through sluices or trenched tank bunds should be considered as issuing from tanks and should be shown in thin lines. That which runs into the tank bed should be shown in thick lines.

(*h*) Survey Numbers should be numbered serially as in original, the figure being placed as far as possible in a central position in each number.

(*i*) The names of the villages adjoining the boundaries should be written on the map and the letters, in order to be equidistant, should be traced after dividing the space with a compass. All roads and foot paths cutting the left hand side of the map should be indicated as leading "*from* ..... *village*"

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and those on the right as leading "*to*.....
.....*village*."

(*j*) The name of the village, Hobli, Taluk and District should then be written in bold and legible characters together with the usual arrow pointing to the North.

When all the work is completed and before passing the map on to the Nimtandar, the map should be examined by the mapper himself, who copied it, to see whether it is according to the original.

113. The rules regarding boundary marks are described elsewhere in this Manual and as a knowledge of these would greatly assist mappers and Nimtandars in drawing, copying and checking the maps.

114. *Duties of Nimtandars.*—Nimtandars should first examine the original map, go through all the remarks made on it to see whether corresponding corrections have been made in the copies and make alterations, if called for, by a reference if necessary to the field records.

They should see whether the numbering and the tracing of bandhs and stones, the bends and all miscellaneous work have been properly executed, whether the names of villages on the boundary, the name of the village itself, Hobli, Taluk and District have been written up neatly and are in order. Doubts arising while copying the map or at the time of Nimtan, should be referred first to the Durasti Branch for solution and corrections, if any, made accordingly. The copies should be returned to the mappers for corrections, if any; all corrections should be attended to within three days of the receipt of maps from Nimtandars who will be held responsible for any mistake that may be found after the corrected copies leave their hands. The names of villages, "Press" copies of whose maps have been checked by Nimtandars, should be entered in the Nimthan Register. The signature of Nimtandars should be affixed on the back of the originals with dates in token of their having examined the copies. Nimtandars should pass on the copies to the Head Nimtandars for a general examination, after which they should be submitted to the Head of the Office for approval.

115. *Printing of Maps.*—After the copies are approved, they should be sent to the Press for being printed, but before final copies are struck, a proof should be submitted by the printer to the Head Nimtandar for approval. If the transferred impression on the stone happens to be defective, such of the defects as could be easily mended on the stone must be so mended, but where this is not possible and copies of maps cannot be properly had, the defective impression should be rubbed out, and orders should be obtained for the preparation of another "press" copy of the map. If owing to the negligence or faulty drawing of the mapper the impression does not come out well

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on stone and becomes useless for printing, the mapper concerned should be made to do the work again without *Rojnisi* or out of office hours.

116. *Original maps to be returned to the General Records.*—The Head Nimtandar should check, every fortnight, the original maps, copies of which have been prepared, and return them to the records.

117. *Diary of work to be maintained.*—The work done by each mapper should be entered in a diary (forms of which are furnished to every mapper) day by day and the diary handed over to the Nimtandar at the beginning of the month following. The diaries, after being checked, should be embodied in the Register kept for the purpose, a copy of which should be submitted to the Superintendent within the 15th of every month.

118. *Printed maps to be sent to Map Records.*— The printed maps received from the Press should be sent to the Map Records once every fortnight or oftener if possible. All maps received from the Press should be entered in a Register kept for the purpose.

119. *Price of printed maps.*—The price of printed maps are regulated as follows :—

Size of map.	*Price* Rs.	a.	p.
Within 2½ square feet ...	1	0	0
Above 2½ square feet and within 4 square feet...	1	8	0
Above 4 square feet ..	2	0	0

The price of maps should be noted by the mappers at the bottom of the copies they prepare and the Head Nimtandar should see that the prices are correctly noted.

Map Records.

120. *Register of printed maps to be maintained.*—All printed maps should be deposited in this branch. A register should be kept for each Taluk, in which the names of all the villages in that Taluk as at present constituted should be entered, and columns opened against each village for noting receipt and issue of maps. These columns should be filled up as each transaction occurs. All receipts from the Press should be entered in the receipt column on the day on which they are received. As maps are issued, the same should be entered in the expenditure column with a brief note in the column for remarks showing on what account and under whose orders the maps were supplied. This procedure also applies to Taluk, District and State maps.

121. As Resettlement is effected according to the constitution of the Taluks as they stood at the original settlement, and as some of these villages are in different Taluks as now constituted, the necessary references explaining the circumstance in

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the case of villages resettled in each Taluk should be maintained, so as to facilitate the work both of printing and of supplying copies on demand.

122. *Supply and sale of maps.*—Printed maps are supplied free to Departments of Government and sold to private parties. Maps for Departments of Government, which as a rule are not paid for, should be supplied only under the orders of the Superintendent. As maps are sometimes only lent out to officers of Government, the Head of the Map Records should check the Map Register once a month to see whether the maps so sent have been duly returned and to take steps for their return in cases of delay.

123. *Distribution of maps of Resettled villages.*—As soon as maps of resettled villages are printed, a distribution as shown below should be made in accordance with G.O. No. R. 7466-76—L.S. 36-11-5, dated 7th June 1913.

One copy to the Patel of the village concerned.
do Shanbhog do
do Taluk Amildar do
do District Deputy Commissioner.

124. *Supply of maps of villages to be resurveyed.*—Soon after the receipt of the Field Programme, timely action should be taken for the transmission to the Field Establishments concerned of two sets of mounted copies of maps of the villages to be resurveyed during the ensuing season.

125. *Maps to be mounted.*—Village maps should be mounted on cloth before they are supplied either to Government Departments or to private parties. No extra cost is levied for mounting them ; but in the case of other kinds of maps, the cost of mounting will be recovered and the amount will depend on the circumstances of each case, such as the size of the map, the kind of mounting and the price of cloth and labour.

126. *Unserviceable village maps to be destroyed.*—When new maps are supplied in place of unserviceable old village maps under the orders of the Superintendent, old maps received from the Government Departments should be destroyed, the destruction being done once a month.

127. *Cloth for mounting village maps to be obtained from the stores.*—It is the duty of the paster to mount maps on cloth; he should not keep any maps given to him for mounting for more than 3 days. The cloth required should be obtained from the stores on indents by the map-record-keeper, which should be carefully examined by the store-keeper and complied with under the orders of the head of the office.

128. *Replenishment of village maps.*—If the stock of maps is reduced to less than 5 copies in the case of any village, steps should be taken to replenish it by reprint. At the beginning of every month, the register should be examined and a list should

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be prepared of maps to be reprinted, and furnished to the Head of the Mapping Branch.

General Records.

129. The duties in this Branch fall under three main divisions:—

(1) Custody of Records.

(2) Rearrangement of old and new records periodically restored or received afresh in the Records.

(3) Complying with requisitions for copies, etc.

(i) *Custody of Records.*

130. The manner in which papers have to be arranged and the period for which they should be preserved is prescribed in the rules contained in G.O. No. 37-2—E A.G., dated 12th July 1916; these rules should be strictly observed. (*Vide* para 98 *supra*.)

131. All papers in the General Records are entered in.—

(1) Dehajadas or villagewar registers of field books, and

(2) Registers of other records. Dehajadas should be properly kept to show the Survey papers of villages pertaining to each taluk, and Registers should be prepared for other records. Each Daftar should be serially numbered, and these numbers should be entered in the Dehajadas and Registers.

132. The Head Record-keeper should examine the records as often as possible in order to see whether they have been safely kept and neatly arranged, and whether slips have been substituted in places of records sent out of the Record-room on requisition. If it is found that any document has become unserviceable owing to frequent handling or other causes, orders should be obtained from the Head of the Office as to their disposal.

(ii) *Fresh Records received in the Branch.*

133. Tippani, Pakka and Prati Books received from the Field Establishments should be carefully compared with the list accompanying them. If any record is found to be deficient, or to have been eaten by white ants or become unserviceable from other causes, the circumstance should at once be reported to the officer in charge of the Records Office, who should intimate the same to the Officer in charge of the Field Establishment concerned.

134. When the papers are found all right, they should be entered in the Avak Register and such of them as have to be arranged villagewar should be entered in the Dehajadas, serially numbered and formed into Dafters.

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135. *Resurvey records to be separately kept till settlement.*—Resurvey Records received from Field Establishments should be kept separate from the other records till the settlement of the villages concerned is completed. The title slip (Survey Form No. 173) should be written up and pasted on the covers of Tippan, Pakka and Prati Books. The Registers, Bagayat Takhtas and Darwaris and maps should be arranged, numbered and all except the last, kept in Daftars carefully. Maps should be rolled up in bundles, and safely deposited on racks, set apart for them.

136. *Requisitions from Field Establishments.*—The following Survey Records should be kept ready for transmission to Field Establishments for Resurvey operations:—

For Measuring Establishment.

1. Original Tippan Books.
2. Original Pakka Books.
3. Original Kacha Nakasa.
4. Akarbands.
5. Printed maps, 2 for each village.
6. Phodi Tippan and Pakka Books.

For Classing Establishment.

1. Original Survey Tippan Books.
2. „ Registers.
3. „ Akarbands.
4. Re-survey Tippan Books.
5. Resurvey Pakka Books.
6. „ "A" Statements.
7. „ Katcha and Nakal maps.

137. When the Classing Establishments return to Head Quarters for Barasathi work, the Original Prati Books and Bagayat Takhtas of the villages reclassed, should also be sent for Akar work.

138. *Records for resettlement work.*—The following papers should be sent for Resettlement work:—

1. Original Akarbands.
2. Resurvey Katcha maps.
3. Khaneshumaris prepared at the time of original survey and their abstract.
4. Statement showing the villages in taluks to be resettled (Survey Form No. 233).
5. Statement showing the original village class, and Jantri class of villages in taluks to be resettled.

Note.—3, 4 and 5 should be prepared from references in the Records.

139. Requisitions for other Survey records received from Survey Officers should be complied with and papers removed from the Records should first be replaced by slips and entered in the Javak Register, before they are sent out of the Record-room.

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140. *Original records should not be sent outside the Department.*—No original record should be forwarded to any office outside the Department without the orders of the Superintendent.

(iii) *Grant of Copies of Survey Records.*

141. *Statutory Provision*—Under Rule 107 of the Land Revenue Rules, the inspection of completed Survey Records will be allowed, and extracts and copies of them will be granted, on payment of the fee prescribed in this behalf. Except in cases in which the Superintendent may consider it undesirable to do so, the inspection of preliminary papers such as measurement and classification field books, Bagayet Thakthas, etc., will also be allowed, and extracts and copies of them granted on the distinct understanding that they are merely intermediate papers of no conclusive value, and that the accuracy of the Statements or entries recorded in them is not guaranteed.

Explanation.—Completed Survey records comprise:—

(1) the village map,
(2) the Faisal Patrik and
(3) the Akarband.

142. *Powers of Assistant Superintendents to grant copies.*—Assistant Superintendents in charge of Field Establishments should not communicate, directly or indirectly, to Government servants of other Departments, or to non-official persons or to the Press, the contents of any document or any information which has come into their possession in the course of their public duties, without the written sanction of the Superintendent or the Deputy Superintendent.

While Survey operations are in progress in any taluk, requisitions for copies of completed Survey records received from the district and taluk authorities may be complied with as far as possible.

143. *Copying fees collected by Amildars for copies of Survey Records how dealt with.*—All fees collected by the Amildars as the value of copies of survey records and maps, are credited in the Treasury accounts under the head 'Miscellaneous,' and a monthly return of such collections is submitted to the Superintendent of Revenue Survey.

144. *Fees.*—The fees leviable for the inspection, grant of copies or search of survey records are:—

(i) For every inspection	8 annas.
(ii) For every certified copy of entries regarding a survey number from the Measurement and classification field books and Bagayet Thakthas ...	1 rupee.
(iii) For every certified copy of entries from Faisal Patrak, Akarbandhs and Pahanisuds for the first 100 numbers	1 rupee.

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For every additional 50 numbers ... ... 4 annas.

(iv) For every certified copy of a map or plan or of any portion of a map or plan not falling under any of the above ... ...

Such fee not exceeding fifteen rupees and not less than one rupee as the officer who certifies the copy shall determine with the permission of the Superintendent.

(v) Search fees will be levied as prescribed in Rule 115 (5) of the Mysore Land Revenue Rules.

145. *Stores and Stationery.*—The Huzur branch has the charge of stores, dead-stock, Instruments of Europe and Indian manufactures, forms, blank field books and stationery articles, the store-keeper being directly responsible.

146. *Indent to be prepared in January.*—By the end of January of every year, an indent in triplicate should be prepared for all articles required to be supplied by the Stationery Depot. The indent should be prepared in accordance with the Stationery Rules and submitted for countersignature and transmission to the Stationery Superintendent within the 15th of February.

147. *Receipts and issues to be accounted for.*—The receipt and issue of stationery articles should be duly entered from time to time in the registers required to be maintained under the Stationery Rules.

148. *Supply of Stationery articles to Field Establishments and offices at Head Quarters.*—The Field Establishments should be supplied with stationery articles twice a year on indents sanctioned by the Deputy Superintendent. In exceptional cases, stationery articles may be supplied as required, under the sanction of the Deputy Superintendent. Articles should be supplied to the offices of the Superintendent, the Deputy Superintendent whenever requisitions are received for the same.

149. *Articles not supplied by Stationery Depot to be purchased locally.*—Stationery articles not supplied from the Stationery Depot should be purchased in the local market after obtaining the sanction of the Superintendent.

150. Tippan, Prati, Pakka, Barnishi and other books are required to be covered with cloth and this should be got done during Summer. Cloth required for the covers should be purchased in or about the month of March so that the lining with paper might be got done during the Summer months. A sufficient number of books should always be kept in stock.

151. *Indent for printed forms.*—An indent for printed forms should be prepared similar to that for stationery articles in the month of March and forwarded in time to the Deputy Superintendent.

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152. *Dead Stock.*—The dead stock of the Department consists of leather and wooden boxes, chains, cross staffs, nails, measuring rods, spades, crowbars, pick-axes, etc. The damaged dead-stock articles returned by Field Establishments during the monsoon season should be examined and repaired as far as possible. Unserviceable articles should be disposed of by auction with the previous sanction of the Superintendent.

153. *Supply of dead-stock to Field Establishments.*—When articles in stock are insufficient for supply to the Field Establishments, the required number should be got prepared on receipt of indents sanctioned by the Deputy Superintendent. A quantity of each sort of dead stock articles should always be kept in stock.

154. *Theodolite Instruments—Repairs of Theodolites.*—The instruments returned by Field Establishments during the monsoon season and those in stock should be examined by an experienced Surveyor and a statement showing the number of instruments requiring repairs should be submitted in the month of September of each year. All repairs to Theodolite Instruments should be executed in good time, with the sanction of the Superintendent.

CHAPTER VII.

Accounts and Financial Control.

155. *General Chief Audit Officer.*—Subject to the general control of the Superintendent, the Deputy Superintendent exercises the functions of Chief Audit Officer of the Revenue Survey Department. All financial and account matters and applications for funds are generally referred to the Deputy Superintendent in the first instance.

156. *Budget Estimates to be prepared in Deputy Superintendent's Office.*—The Department Budget estimates are prepared in the Deputy Superintendent's Office and submitted to the Superintendent for transmission to the Comptroller to the Government.

157. *Supply of Funds.*—On the application of the Deputy Superintendent, the department is supplied with funds by means of letters of credit issued by the Comptroller, within the budget grants. The money is drawn from the Treasury as required, upon cheques signed by the Deputy Superintendent. A letter of credit lapses at the end of the month next following the period for which it is issued.

158. *Salaries of Gazetted Officers.*—Gazetted Officers draw their salaries and fixed travelling allowances on bills in the prescribed form, which are countersigned by the Deputy Superintendent and pre-audited by the Comptroller. Assistant Superintendents of Survey in charge of Field Establishments have to forward their salary bills to the Deputy Superintendent on or about the 25th of each month, which will be transmitted to the Comptroller

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for pre-audit after necessary check and countersignature by the Deputy Superintendent.

159. *Salaries of Establishments, Contingent and Boundary mark charges.*—The amounts required for the salaries of Field Establishments and subordinates in the offices located in Bangalore, and for contingent and boundary mark charges, are drawn on cheques issued by the Deputy Superintendent which are charged in the lists of payments. These cheques are drawn against the monthly letters of credit issued by the Comptroller. The number and date of the said letter of credit will be entered in every cheque for reference by the Treasury. The cheques may be paid at any time during the month in which they were issued or in the succeeding month after which they will lapse.

(*Vide section 147 of the Mysore Account Code, Volume II.*)

160. *Application for funds.*—On the first working day of every month every officer in charge of an Establishment should apply to the Deputy Superintendent for funds for expenditure in the following month, sending an estimate under the heads mentioned below; the Deputy Superintendent will not otherwise be able to make timely arrangements for providing the disbursing officers with the required funds :—

(i) Establishment charges.
(ii) Boundary mark expenditure.
(iii) Contingent expenditure.
Total.

On receipt of all such requisitions from the Field Officers and also from the officers located in Bangalore, the Deputy Superintendent will apply to the Comptroller on or about the 15th of the month for the issue of letters of credit on the different Treasuries according to actual requirements.

161. *Accounts and registers to be maintained in Field Establishments.*—The accounts I to IX named and described below, are maintained in all Field Establishments. Other subsidiary registers to show direct receipts and expenditure under any head are kept in forms, prescribed by the Superintendent for the purpose. The method of writing up these accounts is based on the double entry system of book-keeping.

I. Gola Beriz or Khirdi account is the primary account book kept in all disbursing offices.

Under credits are shown.—

(i) Cash, preaudited bills and cheques received from the Deputy Superintendent.

(ii) State Life Insurance premia recovered, subscription towards Provident Fund, value of house sites and instalments of repayment of advances made for house building, purchase of motor cars, cycles, etc.

(iii) Items credited by book adjustments,

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The debit side shows.—

(i) Salary of the Gazetted Officers.

(ii) Salary of the Establishment, Isamwar.

(iii) Contingent Expenditure, (only the total to be shown, details to be noted in the contingent account book or Wahi).

(iv) Boundary mark expenditure (only the total to be shown, details to be noted in the Bandh Wahi book).

(v) Advances, if any (lump sum only to be shown, details to be shown in Isamwar khate).

The columns should be totalled and the balance struck whenever an addition is made to the entries either under credit or debit.

II. *Deputy Superintendent's Khate.*—Under credits are noted all cheques, cash and countersigned bills received from the Deputy Superintendent. The amounts are adjusted on the debit side when accounts are sent to the Deputy Superintendent with vouchers.

III. *Assistant's Khate.*—The officers' salary bills and other amounts, if any, payable to them, under authority, are noted on the receipt side and disbursements and recoveries, if any, are entered on the debit side.

IV. *Establishment khate.*—Isamwar particulars should be noted on the expenditure side, the amounts taken from Gola beriz, being shown on the credit side.

V. *Contingent khate.*—The total amount noted in the Gola beriz is recorded on the credit side and the details of expenditure on the debit side.

VI. *Bandh khate.*—The pay disbursed to bandh peons and expenditure, if any, incurred for putting up boundary marks, etc., are noted in this account book on the debit side, the amount drawn from the Gola beriz being shown on the credit side.

VII. *Isamwar khate.*—Advances, if any, made to subordinates are shown in this book.

VIII. *Amildar's khate.*—When the Survey Officers deposit public funds with the Taluk Amildar or Amildars, the amount is shown under credit and as withdrawals are made by issue of cheques the respective sums are shown on the debit side.

IX. *Huzur Rokh book.*—All cash transactions are entered in this register day by day and daily balances are struck.

162. *Cash balances should not be excessive.*—As a rule, cash balances with disbursing officers should not exceed the amounts noted against each below. If, owing to any unavoidable cause, the balance should exceed the amount prescribed, the circumstance should be reported to the Deputy Superintendent and the number and date of such reference should be noted in the khirdi.

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	Rs.
Field Establishments	10
Deputy Superintendent	10
Records Office	20
Superintendent	10

Survey Officers should not pay themselves out of the balances at their credit on plea of their salary bills having been sent up for audit. Necessary intimation from the Deputy Superintendent authorising payment should be waited.

Survey Assistants are personally responsible for the balances at their credit and all transactions of payments or receipts must be conducted in their presence. Huzur Karkuns should on no account be entrusted with making such payments.

Payments for boundary marks erected by paid agency should be made by the Assistants themselves and it is only in unavoidable cases that the Amildars are asked to make such payments.

163. *Verification of cash and accounts.*—Officers should verify the cash and accounts as changes take place and each day's transactions should be totalled up in the khirdi account book. The balances left in the Treasuries as Survey Deposits, should be verified by calling for monthly balance sheets from the respective Treasury Officers. If the balance sheets are not regularly received even in spite of reminders issued, the matter must be brought to the notice of the Comptroller. The Deputy Superintendent should forward every month to all the disbursing Officers statements of account in duplicate showing receipts and expenditure for each month, which should be verified by the Officers concerned and if found correct sent back to the Deputy Superintendent with the necessary certificate.

164. *Acquittance Roll for Survey establishments.*—Disbursing officers should maintain an acquittance roll for Survey Establishments in the prescribed form, No. 47. The roll should be signed by the payee affixing a stamp, wherever necessary under the rules. A copy of the acquittance roll should be sent to the Deputy Superintendent within the tenth of the month next following that to which it relates. All the entries have to be carefully checked in the account branch of the Deputy Superintendent's Office with reference to the orders issued from time to time regarding the amount or nature of the leave sanctioned, fines imposed, fresh appointments made and other matters involving a change in the rate of pay, etc.

Note.—The bandh peons do not acknowledge the receipt of their salaries in the Establishment acquittance roll, but give a voucher in Survey Form No. 40, which forms an enclosure to the bandh accounts.

165. *Monthly accounts to be sent by disbursing officers.*—Disbursing Officers in the Survey Department should send to the Deputy Superintendent the following accounts on the date prescribed for each,

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Name of account	When due in the Deputy Superintendent's Office	Remarks
1. Pagar Patrike with the following accompaniments:— (i) State Life Insurance Premium recovery statement. (ii) Subscription towards State Provident Fund. (iii) Statement of recoveries of advances made towards house building, purchase of motor cars, etc., if any. (iv) Statement of recoveries made from salaries of Establishments by order of Civil Court, if any. (v) Statement of unpaid learners, if any.	In the case of offices at headquarters, 10th; in the case of Field Establishments, Monsoon Season, 10th, Field Season, 15th.	
2. Contingent account with vouchers for expenditure in excess of Rs. 10 on any single item.	25th ...	All receipts and vouchers which are retained in the office should be marked "cancelled" and initialled by the officer concerned.
3. Boundary mark accounts ...	25th ...	From Field Establishments only.
4. Nagadi accounts with the following accompaniments:— (i) Gazetted officers unstamped receipt for salary received. (ii) Statement showing undisbursed pay due to bandh peons during the preceding six months (Bandh Wahi) (iii) Statement of Service Stamps used during the preceding month.	1st ...	

166. *Monthly accounts and returns to be sent to Comptroller.*—The Deputy Superintendent should forward to the Comptroller

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to the Government of Mysore every month, the following accounts, requisitions, and vouchers on the due dates :—

	Name of account	Due date	Remarks
1.	Contingent Bill accompanied by vouchers for items of expenditure exceeding Rs. 25 and detailed statement of expenditure incurred for the carriage of office records, etc.	10th of the following month.	After countersignature by the Superintendent.
2.	Summary of expenses incurred on account of pay of Establishments.	10th	
3.	Statement of boundary mark charges incurred on account of cultivated and Inam lands.	10th ...	The Vasuli Patrik (Form 39) received from measuring establishments are sent as enclosure to this account for recovery from Khatedars through Taluk Authorities.
4.	Statement of boundary mark charges incurred on account of Government waste lands.	10th	
5.	Account current ...	10th ...	To be sent in duplicate.
6.	Application for letters of credit	15th ...	Do

167. *Contingent charges.*—Purchases of the articles specified below will be treated as ordinary contingencies which will be passed by the audit officer on the countersignature of the Superintendent of Revenue Survey.

1. Paper.
2. Measurer's Field Books.
3. Cloth for mounting maps.
4. Pencils.
5. Miscellaneous articles of stationery.
6. Penknives.
7. Scissors.
8. Chairs.
9. Cross staffs.
10. Crow bars.
11. Pick axes.
12. Hoes.
13. Peons' badges and belts.
14. Carriage of Office records.
15. Petty Office furniture.

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16. Oil for lighting Office.
17. Repairs of Instruments.
18. Measuring tapes.
10. Umbrellas for shading Theodolites.
20. Bamboos and cloth for signals.
21. Service stamps.

(*Vide Article 556 of the Mysore Account Code, Vol. IV, Part I.*)

168. Extraordinary charges for instruments of English make up to the limit of Rs. 100 each will also be passed by the Audit Office on the countersignature of the Superintendent; but charges exceeding that amount will require the special sanction of Government before they are incurred (*vide* Section 805 of the Treasury Manual). Heads of Departments and all officers of and above the rank of a Deputy Commissioner are empowered as hereunder to sanction the purchase, out of the contingent grants allotted to them, of country made articles and of articles made out of India, and also repairs of furniture to the limit specified in each case:—

	Heads of Department	Disbursing Officers
1. Purchase of Country made articles.	Rs. 25	Rs. 10
2. Purchase of articles made out of India.	Rs. 25	Rs. 10
3. Repairs of furniture within Budget allotment.	Rs. 25	Rs. 10

(*Vide G. O. Fl. 2647-92—G. Fl. 112-06-1, dated October 1906.*)

Further instructions were issued by Government regarding contingent charges in Order No. Fl. 2669-718—G. F. 8-17-2, dated 28th November 1917.

Sanction of Government need not be obtained for purchasing Postal, Telegraph or Railway guides. The expenditure incurred in purchasing them should be charged to contingencies. Articles usually supplied from the Government Stationery Depot should not be purchased in local markets.

169. *Boundary Mark charges.*—Bills for field boundary mark charges incurred in the Survey Department on account of Government cultivated and Inam lands, are sent to Comptroller by the Deputy Superintendent monthly, one for each district, showing by taluks and villages the amount expended in the construction of boundary marks. With the bill is forwarded a statement showing the names of individuals from whom the amounts are due. The bills and the statements are forwarded

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to the respective Deputy Commissioners for necessary measures being taken for the recovery of the amount.

(*Vide Article 149(b) of the Mysore Account Code, Volume II.*)

170. Immediately after the close of each official year, every District Treasury Officer should certify, on the requisition of the Deputy Commissioner of the District, the amount of Survey boundary mark advances recovered from the raiyats and credited in the Treasury accounts during the year.

(*Vide Articles 149 to 153, Mysore Account Code, Volume II.*)

171. Boundary mark charges consist of the following items : —

(1) pay of the bandh peons at Rs. 7 per month employed for getting the boundary marks constructed when Survey operations are in progress.

(2) Charges incurred on account of the boundary marks constructed by paid agency owing to the default of the raiyats.

(3) Charges incurred on account of flag holders and chain men employed under Section 108, Land Revenue Code.

(4) Boundary mark contingency which is a levy of 3 pies per survey number in case paid agency is employed for the construction of boundary marks.

172. When villagers put up their own bandhs and stones, they shall be charged for bandh peon's pay, but not for boundary mark fund ; in such cases, if the villagers are willing to pay the amount of bandh peon's pay, and thus save the preparation of any boundary mark accounts against the village, they can be permitted to pay in the amounts to the Assistant within one month of notice or such other time as the Assistant may appoint. This money must be paid to the Assistant in person and not to the Amildar or any other official. A receipt will be granted by the Assistant to the villagers to the effect that nothing is now due from the village on account of boundary marks, and the Assistant is responsible that this is correct.

173. In cases where the villagers put up their own bandhs without payment and the Assistant provides the stones and in cases where both bandhs and stones are paid for by the Assistant, boundary mark accounts are made out against the village for the cost incurred plus the pay of the bandh peon, plus boundary mark fund (since called boundary mark contingency) at the rate of three pies for each survey number in the village.

174. If the proportion of waste lands in any village is within 5 annas in a rupee, the whole of the boundary mark charges should be borne by the cultivated numbers. If above 5 annas the excess should be borne by Government.

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175. When paid flag holders and chain men have been employed, bandh accounts have to be made for each number as detailed above.

176. When the submission of village bandh accounts is delayed on account of small sums outstanding as unpaid, such as Patraks to wodders who have gone away, bandh peon's pay, etc., the accounts should be made out as if such sums had been paid, the money being held in "amanath" (deposit) for six months and if such amount is unclaimed at the expiration of that period, it should be credited to the boundary mark fund, from which it can be paid at any future period on the claim being substantiated.

177. In the case of valuation survey of Inam villages Wasul Patriks should be made out in the name of the Inamdar on the total beriz, numberwar details and the "C" statement being considered unnecessary.

178. *Adjustment of boundary mark accounts.*—All boundary mark expenditure should remain on the Survey books till the measurement of the village is completed and the accounts are made up. In cases where the final completion of operations in a village is delayed on account of a little work yet to be done or of any boundary dispute or other cause of a like nature, sending in the accounts of the completed main bulk of the village need not be delayed. A supplementary bill may be forwarded afterwards on the completion of the outstanding work.

179. Separate Wasul Patriks should be submitted for Amrut Mahal and Palace kavals.

Note.—For further particulars regarding the boundary marks accounts and registers to be kept by the measurers—*vide* Chapter VIII of Vol. II.

180. *Account current.*—The Deputy Superintendent will submit an account current to the Comptroller in duplicate showing the receipts (amount drawn on bills and cheques) and payments for each month. The salaries of Gazetted Officers will be shown on both sides of the account as also any payments made by Messrs. Coutts and Co., London, for purchases made out of India.

(*Vide Article 554 of the Mysore Account Code, Volume IV, Part I.*)

The monthly cash account sent to the Comptroller's Office should be accompanied by a memo showing—

(1) the names and designations of the Revenue Survey Officers,

(2) their pay and

(3) the Treasury from which it was drawn.

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CHAPTER VIII.

Periodical Returns and Reports.

181. *List of returns and reports to be maintained.*—Survey Officers should arrange for the punctual submission of returns and reports due from their offices. A list of returns and reports showing the names of the officials entrusted with the compilation thereof should be maintained in each office.

182. *Returns and reports due from Field Establishments.*—The following returns and reports in English and Kannada are due from the Officers placed in charge of the Field Establishments to the Deputy Superintendent; Huzur Karkuns should be held strictly responsible for the punctual submission of these on due dates: —

Serial No.	English returns and reports	Due date	Remarks
	FORTNIGHTLY.		
1	Statement of villages appointed for re-survey or re-classification work.	Within three days after the fortnight.	During Field season.
	MONTHLY.		
2	Field test return together with that of the Surveyor, if any.	5th of the month following.	do
3	Return of unsatisfactory numbers discovered during measurement test.	do ...	do
4	Return of unsatisfactory numbers discovered during classification.	do ...	do
5	Return of fines over 10 per cent of a man's pay.	do ...	do
6	Return of complaints	do ...	do
7	List of unanswered references	do ...	
8	Return of examination of monsoon tapasani in Field Establishment.	do ...	During Barsati season.
	EVERY TWO MONTHS.		
9	Report on Probationers attached to Field Establishments.	5th of the month following.	
10	Return of examination of paid Learners ...	10th February. 10th April. 10th June.	
	HALF-YEARLY.		
11	List of officials of and above the grade of peons who have been dismissed.	Close of the half-year.	
	ANNUAL.		
12	Inspection report of the Field Establishment Office.	February or March.	Within a week after the date of inspections
13	Confidential report on officials drawing Rs. 70 and above.	3rd July	
14	List of blocks available for the creation of large landed estates.	do	
15	Report on the condition of boundary marks in the tracts resurveyed or reclassed during the Field Season.	10th July	

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Serial No.	English returns and date	Due date	Remarks
16	Qualification rolls in duplicate of the Karkuns, Surveyors, Measurers and Classers	1st August	
17	Progress report with appendices ...	do	
18	Returns of examination of Measurers in the use of Theodolite.	1st September.	
19	Return of instruments of Foreign manufacture.	do	
20	Abawal report of the Taluk resurveyed or reclassed.	31st October	
21	Annual promotion rolls of establishments ...	10th December	
	KANNADA RETURNS.		
	WEEKLY.		
1	Progress statement of monsoon work in Measuring Establishment.	Every Monday	During monsoon season.
2	Progress statement of monsoon work in Classing Establishment.	do ...	do
	MONTHLY.		
3	Advance Yadi	1st of every month.	
4	Statement of field work done in Measuring Establishments.	5th of the month following.	During field season.
5	Statement of field work done in Classing Establishments.	do	
6	List of unanswered references	do	
7	Ajari Patrick	do	
	HALF-YEARLY.		
8	Dead Stock Patrick	1st November and 1st July.	
	ANNUAL.		
9	Indent for stationery articles and forms for use during the monsoon season.	1st March	
10	Establishment schedule with its accompaniments.	10th July	
11	Indent for stationery and forms, etc., for use during the field season.	1st August	
12	List of superannuated officials ...	15th October	

183. *Boundary mark condition report.*—The object of the report on the condition of boundary marks is to show the extent to which Survey operations are facilitated or retarded by the presence or absence of boundary marks, the time taken in fixing the missing marks, the degree of co-operation secured from the villagers and the promptitude with which the local authorities co-operated with the Survey Department. Any impediment of a special nature to the progress of re-survey operations should be clearly stated in the report.

184. *Progress Report.*—Measuring and Classing Officers should forward, so as to reach the Deputy Superintendent by the 1st of August, a report on the Progress of Survey operations during the official year ending 30th June preceding. The report should be concise and intelligent, and should at the same time, convey an exact idea of the work actually done by the establishment during the year. The following headings are prescribed, so that the reports may, as far as possible, be uniform.

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(i) *Resurvey operations.*—A brief account of the tracts allotted and surveyed during the year.

(ii) *Original Survey.*—The progress made in the detailed survey of inam villages.

(iii) Subdivisions of lands ordered at Jamabandi and special work, if any.

(iv) Training of officers, if any.

(v) Reclassification work, if any.

(vi) Strength of establishment.

(vii) Working and non-working days.

(viii) Condition of boundary marks.

(ix) Tests.

(x) Unsatisfactory numbers, if any.

(xi) Result of retest work.

(xii) Progress made in the submission of boundary mark accounts.

(xiii) Monsoon work at Headquarters.

(xiv) Property statement.

(xv) Large landed estate scheme.

(xvi) Any other matter of interest worth being brought to notice.

185. *Appendices to progress reports due from the Field Establishments.*—The following English and Kannada statements should be appended to the progress reports :—

I. MEASURING ESTABLISHMENTS.

In English.

(i) Measurement progress return.

(ii) Statement showing discrepancy between test and original measurements.

(iii) Field Boundary Mark Statement.

(iv) Monsoon Work Progress Statement.

In Kannada.

(i) Statement of working and non-working days.

(ii) Statement of boundary marks dealt with.

(iii) Statement showing detailed survey of inam villages.

(iv) Statement of non-tested villages.

(v) Statement of unsatisfactory numbers.

(vi) Property statement.

II. CLASSING ESTABLISHMENT.

In English.

(i) Classification progress statement.

(ii) Statement shewing discrepancy between test and original classification.

(iii) Monsoon or akar work progress statement.

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In Kannada.

(i) Statement of subdivisions effected in pursuance of orders passed at Jamabandi.

(ii) Statement showing the original survey of inam villages, if any.

(iii) Statement of unsatisfactory numbers.

(iv) Property statement.

186. In the return (No. 10) of examination of paid learners, the date on which the learner joined the Survey Department, should be entered in column 2, while the date on which he actually joins a measuring establishment has to be shown in column 3.

187. The statement (No. 3) of unsatisfactory numbers discovered during test, should contain only such numbers as are declared to be unsatisfactory according to the Survey Commissioner's order No. 255, dated 4th April 1870.

188. In the return of visits to measurers (Statement No. 2) a note in the appropriate column should be entered, specifying whether the field books and registers are written up correctly and up-to-date.

189. The Surveyor's test returns should be prepared just in the same way as the Assistant's returns, signed by them and countersigned by the Assistant in charge.

190. The Assistants should carefully examine the Mahewars of work sent up by measurers and classers and take due notice of all cases of short work, loss of days in travelling, harkath, sickness, rain, etc. Measurers and classers systematically showing loss of days as specified above should not be recommended for promotion.

191. The method of calculating days for incorporation in the progress report is shown in W. H. No. 68 of 1874.

192. Instructions for filling in weekly returns of Tapasani work during monsoon are given in Circular order No. 44 of 1874.

193. In the returns of instruments of foreign manufacture, Theodolite and instrument boxes should be entered under separate headings of "Test" and "Measurer's."

194. Statement of work done in the field season, should be submitted within the 5th of the following month. Measurers not sending their Mahevars on the 1st of the month should be fined two annas for each day's delay, or a more severe punishment may be inflicted, if fines are not heeded.

195. A statement of temporary men should be sent every year in the prescribed form along with the annual schedules of permanent establishments.

196. *Returns and reports due from the Deputy Superintendent.*—The following returns and reports are due from the Deputy

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Superintendent to the Superintendent. The Sheristedar or the ministerial head of the office should be held strictly responsible for the punctual submission of these on the due dates:—

Serial No.	Returns and reports	Due date
	MONTHLY.	
1	Copies of Departmental circular orders in English	5th
2	Do do in Kannada.	5th
3	List of unanswered references (English) ...	15th
4	Do do Kannada ...	15th
5	Statement of work done by each Field Establishment	20th
6	General Test Return ...	20th
7	Statement of fines above 10% of pay ...	25th
8	Statement of unsatisfactory numbers discovered at tests.	25th
9	Statement of complaints ...	25th
10	Statement of work done by Surveyors and Measurers employed in districts.	25th
	EVERY TWO MONTHS.	
11	Report on Probationers ...	Every Second month from 1st December
	QUARTERLY RETURNS.	
12	Exemption statement under Rule 8 of the Clerkship Rules.	Within a week after the close of each quarter
	HALF YEARLY.	
13	List of officials of and above the rank of peons who have been dismissed.	On the close of the half-year.
14	Statement of work done by Officers ...	15th Jan. and 15th July
	ANNUAL.	
15	Confidential Report on Officers * ...	10th January
16	Budget estimates ...	1st week of March
17	Annual Indent for stationery † ...	10th February
18	List of appointments given to members of backward communities.	In the middle of January
19	Annual Indent for Forms ...	March
20	Surrender of budget grants ...	May
21	Confidential report on officials drawing Rs. 70 and upwards.	Soon after the close of the official year
22	Statement showing the details of unadjusted balances of Assistants and others.	5th July
23	Inspection report of the Deputy Superintendent's Office.	July
24	Brief report of work done by the Survey Department for the year ending 30th June.	1st August
25	Report on the condition of boundary marks.	1st August
26	List of large landed estates ...	August
27	Establishment schedules ...	15th August
28	Gradation list of officials ...	In August
29	Qualification rolls ...	1st September
30	List of superannuated officials ...	1st November
31	Inspection report of Field Establishment ...	Within a month of the date of inspection, between November and June.
32	Do do during Barsati...	Within a week of the date of inspection between July and October.
33	Progress Report ...	1st September
34	Promotion Rolls ...	25th December

* In the form prescribed by Government.

† In the form prescribed under the Stationery Rules.

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197. *Appendices to the Progress Report due from the Deputy Superintendent's Office.*—The following statements in English should be appended to the Progress Report forwarded by the Deputy Superintendent :—

(i) Measurement Progress Statement

(ii) Discrepancy between test and original measurements.

(iii) Field boundary mark statement.

(iv) Monsoon office progress statement for measuring establishments.

(v) Classification Progress Statement.

(vi) Statement of discrepancy between test and original Classification.

(vii) Monsoon office progress statement for classing establishments.

(viii) Statement showing the progress made in the preparation and distribution of maps.

(ix) Statement showing the cost of the Department during the year under report.

(x) Statement showing the cost of the Department from the commencement of operations in 1863-64.

(xi) General Statement of Progress made in the Survey and Assessment operations.

(xii) Property Statement.

198. *Returns and reports due from the Superintendent's Office.*—The following indents, returns and reports are due from the Superintendent's Office to the several officers mentioned and to Government. The Personal Assistant is held responsible for their timely preparation and submission to the Superintendent.

	Due date
To the Superintendent, Stationery Depot.	
(i) Indent for Stationery	15th February
(ii) Indent for Forms	31st March
To the Chief Engineer, Public Works Department.	
(i) Corrections in Topo sheets...	Within 31st January
To the Revenue Commissioner.	
(i) Brief Report for incorporation in the Revenue Administration Report.	1st September
To the Deputy Director of Commerce in Mysore.	
(i) Monthly statement of stores or supplies received from outside the State.	15th of each month
To the Inspector-General of Education.	
(i) Half-yearly statement of Scholarships sanctioned in the Department.	15th January and 15th July
To the Deputy Commissioner.	
(i) Statement of lands available for cultivation under the Large Landed Estates Scheme.	During Barsati season

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TO THE GENERAL AND REVENUE SECRETARIAT.

Name of report or return	Reference to orders containing instructions for the preparation of the return	Due date
	Monthly.	
1. Circular orders ...	G. O. No. 7405-45—Edn. 422-07-9, dated 6th February 1909.	10th of each month.
2. Monthly journal, (Statement of touring and Inspections).	G. O. No. 143—E. A. G., dated 24th August 1916.	10th of each month.
	Quarterly.	
1. Exemption statement under Rule 8 of Clerk-ship Rules	G. O. No. 1962-2011—E. A. G. 249-17-1, dated 11th April 1918.	15th of the month following the quarter.
	Half-Yearly.	
1. List of organisation and development subjects.	G. O. No. G. 9252-301—G. M. 411-16-1, dated 5th January 1917.	January and July.
2. Statistics of business ...	G. O. No. 688-726—E. A. G. 8-15-1, dated 28th October 1915.	Within 31st January and July.
3. List of officials of and above the rank of peons, who have been dismissed.	G. O. No. G. 21716-75—G. M. 1(b)-19-41, dated 20th March 1920.	Before the end of the month following the half year.
	Annual.	
1. Confidential reports of officers.	G. O. 650-710—C. B. 97-19-1, dated 24th November 1919.	20th July.
2. Statement of Europeans employed in the department.	G. O. No. G. 5796-836—G. M. 181-06-55, dated 23rd March 1907.	Within 31st January.
3. Report on the condition of boundary marks.	R. 6681-90—L. S. 24-09-2, dated 9th April 1910 and R. 7342-3—L. S. 17-12-4, dated 2nd June 1913.	Within 31st of August.
4. Gradation list of officials in the department.	G. O. No. 1475-514—G. M. 139-13-1, dated 18th August 1913.	Within 1st of September.
5. Progress Report (Administration Report).	R. 13532-9—L. S. 29-18-2, dated 24th April 1919 and G. O. No. 3977-4026—E. A. G. 379, dated 30th June 1919.	1st September.
6. Brief report on Land Survey for Administration Report.	G. 684-723—G. R. 10-15, dated 4th August 1905.	Within 30th September.
7. List of officials drawing pay of Rs. 70 and above.	Gl. 5498-588—S R. 186-05-8, dated 28th April 1908.	Within 31st July.
8. Report of Inspection by the Superintendent of his own office. Report of the Deputy Superintendent's office. Report of the Records Office.	No. 44—E. A., dated 22nd February 1916.	In December or January.
9. Statement of appointments given to members of backward communities.	G. O. No. 79—E. A. G., dated 20th December 1916 and 2168-22-17—E. A. G. 252-17-2, dated 7th May 1918.	Within 1st February.
10. List of superannuated officials.	G. O. No. G. 18-57—G. M. 258-06-14, dated the 2nd July 1907.	Within 30th November.

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CHAPTER IX.

199. *Custody of instruments of Foreign Manufacture.*—An Officer is held responsible for the state of instruments of foreign manufacture, *viz.*, Theodolite, Prismatic compases, Plotting boxes, etc., entrusted to him for the use of himself and his establishment. He should satisfy himself by periodical inspections, once in two months, that no part is lost and that the instruments are in an efficient condition. If the instruments are transferred from the care of one Karkun to another, a report of giving and receiving charge with a note of deficiencies, if any, should be made in order that the loss may be recovered from the person concerned. An officer who cannot ascertain the person to whom loss or damage is due, will render himself liable. Every officer should be able to clean and adjust Theodolites and other instruments.

200. *Purchases of stationery articles and dead stock.*—Assistant Superintendents should not incur expenditure without sanction on the purchase of dead stock and articles of stationery.

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THE MYSORE REVENUE SURVEY MANUAL

PART II.

CHAPTER I.

PRELIMINARY.

Interpretation.—In these Rules, unless there be something repugnant in the subject or context:—

(1) Survey Officer means an Officer appointed under or in the manner provided by Section 17 of the Mysore Land Revenue Code, Regulation IV of 1888.

(2) Survey number means a portion of land of which the area and other particulars are separately entered under an indicative number in the Survey records of the village, town or city in which it is situated.

(3) Boundary mark means any erection whether of earth, stone or other material and also any hedge, vacant strip of ground or other object, whether natural or artificial, set up, employed, or specified by a Survey Officer or other Revenue Officer having authority in that behalf, in order to designate the boundary of any division of land.

(4) *Karda* or *Khatedar* signifies the occupant or the eldest or principal of several joint occupants, whose name is authorisedly entered in the Government records as holding unalienated land whether in person or by his co-occupant, tenant, agent, servant or other legal representative.

(5) *Khate* means an occupancy separately recognized in the village accounts and comprised in a single survey number or a portion of a survey number, and includes sub-divisions made under Land Revenue Rule XXVII of 1890 and entered in Form I, Appendix D of those Rules.

The term Khate wherever occurring in these rules does not

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mean the aggregate of a raiyat's holdings. (Rule 15 of Re-survey Rules.)

(6) When a person's name is entered in the Government records as holding Inam land, he is called the Inamdar of that land.

(7) All land held by one Khatedar and enclosed within a continuous line of boundary is a "Shet".

1. *Exception.*—Different kinds of Inam lands, although within a continuous line of boundary and held by the same Inamdar, do not form one Shet, but form as many different Shets as there are different kinds of Inam.

2. *Watan* lands, although held by several sharers, form one Shet, when the Watan is of one denomination and not separated by other lands.

The "Numbers" entered in the Government records are not to be considered separate "Shets".

(8) *Parampok* means rocky portions of land, void of earth, which cannot be ploughed up and on which even grass does not grow, and also land which in consequence of being covered with thick jungle cannot be cultivated.

Explanation.—Land which may have been long lying waste is not to be considered as Parampok unless it is covered with thick jungle.

(9) "*Kumri*" signifies land on the mountain slopes in the malnad on which the jungle is cut down and burnt previous to the land being sown. These are cultivated only one or two years, and then allowed to lie waste, until the jungle grows up again.

(10) "*Dry Crop land*" includes—

(i) Land whether cultivated or waste on which neither rice nor garden produce has ever been raised.

(ii) Cultivated land, at present producing dry crops, in which, although rice was formerly grown, neither rice nor sugar-cane crop was raised during the three preceding years.

(11) "*Rice land*" includes—

(i) Land, either waste, or at present producing dry crops, but which has produced either rice or sugar-cane once or oftener within the last three years.

(ii) Waste land, in which neither rice nor sugar-cane has been grown within the last three years, but in which old ridges or embankments, for cultivating rice still exist, to the extent of those embankments.

Explanation.—If however, when cultivated, the land always produced rice and would, in consequence of there being a sufficient supply of water, if cultivated again, still produce rice, then, although there are no old rice embankments, it should be considered rice land.

(12) *Garden land* means and includes—

(i) Land whether cultivated or waste, entered in the current records of the village as entirely garden land.

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(ii) Land cultivated with lift irrigation from a well, tank, or stream although there may be a rice crop standing on it.

(iii) Lands irrigated solely from wells irrespective of the kind of crop raised thereon.

(iv) Lands containing Dhruva pairu, *i.e.*, areca, cocoanut, plantain, pepper, cardamom, betel leaves and mulberry, whether irrigated from wells or other sources.

(v) *Wut Hukum Bagayat, i.e.*, dry land where cocoanuts are grown without any irrigation.

(13) *Pot Kharab* means a piece or pieces of land classed as unarable and included in a survey number.

(14) *A "Misrit Shet"* is land containing more than one of the three kinds of crops, *viz.*, dry, rice and garden.

Note.—In dealing with such lands, the area under each kind of cultivation shall be determined as follows:—

(i) If a "Shet", entered in the village records as containing garden and dry crop soil, is at the time of measurement sown with dry crops only, or is lying waste, reference should be made by the Measurer to the village officers and "Karda" (late or present) of the "Shet," and he should then measure such portions of it as they tell him will yield garden produce, as garden land. But if, in consequence of the well having fallen in, or having no water, it is impossible to raise garden produce in the "Shet," it should be considered entirely dry crop land.

(ii) When a "Shet" is cultivated with both garden and dry crops, the portion cultivated with garden crops at the time of measurement, together with any portion that may have been so cultivated during the current season, or that may be prepared for garden cultivation, as also such portion as is appropriated to a rotation of garden and dry crops (although there may be a dry crop on it at the time) should be considered garden land, and measured as such; and, in order to ascertain the portion appropriated to a rotation of crops, the measurer should refer to the village officers and "Karda" of the "Shet," and measure according to the limits shown by them. In the meantime, care must be taken to measure that portion of the "Shet," which is not appropriated to a rotation of crops, but is always cultivated with dry crop, as dry crop soil. For example, in a "Number" of ten acres, if, during the current season, one acre is cultivated as garden land, two acres are appropriated to a rotation of crops, and, on an average of seasons, seven acres are cultivated with dry crops, then three acres should be measured as garden, and seven as dry crop land.

(iii) If a "Shet", entered in the current records of the village as producing both rice and garden crops, is cultivated entirely with rice, or has less garden cultivation in it than is entered in the records, then the measurer is to see if any or more land could not be appropriated to garden produce; and in this case, he is to ascertain from the village officers whether the

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"Karda's" share in the supply of water would be sufficient to irrigate such extent. If it would, then this extent of land should be considered garden land, and measured as such.

(iv) If a "Shet", entered in the current records of the village as entirely rice land, has besides rice and sugar-cane, panvel (betel leaves), cocoanut, supari, plantain, or other garden cultivation in it, or if any part of it is being prepared for such cultivation, then the land so cultivated, or under preparation for such cultivation, should be considered garden land and measured separately as such. But should the garden products alluded to be raised only on the boundaries of the "Shet", then it should be considered as entirely rice land.

(v) If a "Shet" is cultivated with garden produce, rice and dry crop, that portion which is not appropriated to rice and garden produce, or to a rotation of garden produce and dry crops, but which, when cultivated, is always appropriated to dry crop, should be considered dry crop soil, and measured as such; and the garden and rice land separated, as in the preceding rules.

(vi) In measuring uncultivated garden and rice land "Shets", the village officers should be referred to for the line of division between the portions which produced the different crops when the "Shets" were under cultivation; and they should be separated accordingly.

CHAPTER II.

Chain Survey.

1. *Level lands to be measured with chain and very rough or jungly land with Theodolite.*—Level portions of land should be measured with the cross-staff and chain of 33 feet in length divided into 16 annas. When uneven land or land covered with jungle which cannot be correctly measured with the chain is met with, the circumstance should be reported to the Assistant Superintendent who will arrange for having the ground measured with the Theodolite or field compass.

2. *Computations of areas.*—All measurements should be computed in acres, guntas and annas.

3. *Supply of instruments and books.*—Each measurer will be supplied with two chains of sixteen annas in length, a four anna rod for the purpose of testing the chains, a cross-staff, blank field and fair books, printed forms, etc. The measurer should provide himself with his own drawing materials.

4. *Testing the chains.*—Every chain should be tested by the Headquarters Office before issue to a field establishment and the officer in charge of such establishment should further verify it himself.

All the chains in use should be examined by the Assistant

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Superintendent concerned at least once in every month, either at the village or in his camp.

5. *Test chains.*—Two sets of Gunter's chains of 66 feet in length divided into 100 links, are supplied to each measuring establishment for the use of the testing officers. Before commencing tests, these chains must be tested with reference to the chains used by the measurer.

6. *Test of chains by higher officers.*—The Superintendent and the Deputy Superintendent are expected to test occasionally, the chains used by the assistants for testing, and also the standard measurer's chain used by them for checking their measurer's chains, in order to see that the chains are of correct length. A standard Gunter's and a measurer's chain with the steel and wooden test rods should be kept in the Superintendent's and the Deputy Superintendent's Offices.

Note.—Chains should never be checked by measuring tapes, as these are always more or less faulty.

CHAPTER III.

Division of land into survey numbers.

I. Statutory provision.

Rules for the division of village lands into fields or numbers were first based upon the minimum area adopted in the Southern Mahratta country, as the soil and the mode of husbandry in parts of the Chitaldrug District where survey operations were commenced, required similar treatment. The rules that were then in force on the subject are given separately in the appendix to this chapter. As the operations progressed towards the south, red and gravelly soils which were mostly met with, called for the reduction of the minima fixed at the inception of the survey. Moreover, pressure on land due to changes in economic conditions, also operated in the same direction. The minima had, therefore, to be modified from time to time. The present law on the subject is contained in Section 109 of the Land Revenue Code and the rules issued thereunder. The present minima for the several classes of lands in the various districts are as shown in the following table.

District	Dry	Wet	Garden	Coffee	Cardamom
	A. g.	A. g.	A. g.	A. g.	A. g.
1. Bangalore ...	4 0	1 0	0 20	.....	.....
2. Kolar ...	4 0	1 0	0 20	.....	.....
3. Tumkur ...	4 0	1 0	0 20	.....	.....

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District	Dry		Wet		Garden		Coffee		Cardamom	
	A.	g.	A.	g.	A.	g.	A.	g.	A.	g.
4. Mysore ...	4	0	1	0	0	20	.....		....	
5. Hassan ...	4	0	1	0	0	10	15	0	5	0
6. Kadur ...	5	0	1	0	0	10	15	0	5	0
7. Shimoga ...	5	0	1	0	0	10	15	0	5	0
8. Chitaldrug										
Black soil ...	10	0	1	0	0	20	.....		.....	
Red soil ...	6	0								

Note.—The minimum area for the sub-division of coffee lands is reduced to five acres in the following cases and subject to the following conditions:—

(1) Where the land concerned is self-contained, *i. e.*, does not adjoin other lands fit for coffee.

(2) Where it adjoins lands fit for coffee, or when the application is for a portion out of a large area; provided that in such cases the lands be given out from one side of a survey number and in continuation of the existing cultivation without prejudice to the remaining portion of the survey number being made available for future applicants.

(3) Where it adjoins the applicant's own ordinary agricultural lands.

(4) When the land applied for is by the side of a stream, it shall be taken up on one side of it and the usual margin of 50 yards shall be left free. (Appendix H to Land Revenue Rules.)

II. Rules to be observed when dividing lands into survey numbers.

1. "Shets" whether Government or Inam, should be divided into "Numbers," precisely in the same manner.

2. When the survey of a taluk is about to be commenced, directions will be given as to the sizes of the "Numbers" into which the various descriptions of soil should be divided; but, if no directions are given on the subject, the "Numbers" should be made according to the sizes laid down in these rules.

3. Parampok should be divided, as may suit convenience, into numbers of from 10 to 500 acres each.

Small detached pieces, below 10 acres in extent, which cannot be conveniently made into separate numbers, should be included in neighbouring culturable numbers, and in order to effect straight boundary lines, very small portions of Parampok may, when required, be included in culturable numbers.

4. In taluks bordering on the ghats, pieces of land are met with in which rice crops were formerly reared; and around which

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rice embankments can still be seen; but, in consequence of having long lain waste, they are now covered with jungle. These pieces, if surrounded, with jungle, should be included in Parampok numbers.

5. Kumri, whether cultivated or waste, if surrounded by jungle, is not to be made into a separate "Number," but should continue to be treated as Parampok.

6. In some places in the taluks bordering on the ghats, very hilly parts inaccessible to the plough, but not thickly covered with trees, are converted into Kumri by manual labour, and cultivated for one or two years. When such Kumris are met with, they should not be divided into separate Numbers, but should be treated as Parampok.

7. In the villages of the taluks which border on the ghats, flat land free from jungle, and accessible to the plough, is sometimes cultivated, not as common dry crop soil, but in the same way as Kumri; that is, for one or two years, and then allowed to lie waste. Land of this description should not be included in Parampok numbers, but should be measured separately, in the same manner as cultivable soil.

8. When a piece of waste, but cultivable dry crop soil, of less than five acres in extent, or a cultivated piece of the same soil, two acres in extent, is met with in a large Parampok number, the land should not be formed into a separate number, but should be included in the Parampok number. But should two or three such pieces of dry crop soil be found in the vicinity of each other, they should not be included in the Parampok number, but should be embodied, with whatever portions of Parampok may intervene, into one number, of the size prescribed.

9. When small pieces of rice or garden land, whether cultivated or waste, are met with in large Parampok numbers, as in the above rule, they should not be included in the Parampok Numbers, but should be measured off into separate numbers.

10. Large tanks should be measured into separate numbers, and entered as Parampok; but small ones, situated within the boundaries of Shets, should be included in the same numbers with those Shets. Should, however, a tank be situated near the boundary of a Shet, and it be advantageous to measure it separately, it should not be included in the same number with the Shet; or should other Shets, besides the one near the boundary of which the tank is situated, be irrigated by water from it, then it should be measured separately, even though it be a small tank, in order that the Karda of the Shet, on the boundary of which it is situated, may not prevent the Kardas of the other Shets from irrigating them from it. But in case the Shet in the immediate neighbourhood of the tank be the only one which is irrigated from it, then such Shet and the tank should be included in one number, and the area of the tank deducted as unculturable.

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11. In dividing Inam Shets into numbers, the boundaries according to which the raiyats of the Inamdars cultivated the lands, should not be needlessly set aside; but, as far as practicable, should be adopted as the boundaries of numbers.

12. In dividing the lands into numbers, the contents of each piece, entered in the old survey papers, should be adopted as a guide; but in case the boundaries are not defined, or if, in consequence of there not having been a survey before, the area of each piece cannot be ascertained with any degree of certainty, an area should be assumed which will not fall short of the real one, so that the numbers may not exceed the standard size. For example, if a Shet of red soil appear to contain 30 acres, then 33 acres should be assumed as the contents, and it should be divided into two numbers accordingly.

13. After having measured and computed the extent of a number, should it be found smaller or larger than the prescribed size, it should not be enlarged or diminished; for by so doing the field and boundary books will have to be altered; but in case the excess or deficiency in the size of the number should be more than an acre, the circumstance should be reported to the Assistant Superintendent, who will direct whether the number should be cancelled, or allowed to remain. In this report, care must be taken to mention whether the number is cultivated or waste; and if partly cultivated and partly waste, what amount of each it contains.

14. When two or more undersized Shets adjoin each other, which, taken together would make one number of the prescribed size, they should be measured into one number. For example:—

1st. Should there be one dry crop "Shet" of two acres, another of two, and a third of one, adjoining each other, they should be measured into one number.

2nd. Should there be three dry crop "Shets," one of two acres, another of three, and a third of two acres, adjoining each other, inasmuch as two of these Shets contain sufficient land to form a number of the prescribed size, they should be measured into one; and the third measured into a separate number.

15. When, in order to make a number of the size laid down in the rules, it is necessary to measure two or three Shets together, it sometimes happens that although the holdings of the Kardas, according to the old survey measurements, are within the standard size for a number, still, by present measurement, they exceed it, and the number in which they are comprised goes beyond the limit allowed by the rules. When this happens, a report, giving a close estimate of the extent of each Karda's holding, according to present measurement, and mentioning what it is exactly according to the old survey measurement, should be made to the Assistant Superintendent, who will give directions how the number should be divided.

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16. When a Shet which is not large enough to form a number of the prescribed size, has not another undersized Shet adjoining it, it should be measured into a separate number; but in case a long narrow Shet, large enough to form a number of the prescribed size, has another Shet equal in length, and of less than three chains in width, adjoining it, then, whether the latter is large enough to form a full sized number or not, the two should be measured into one number; for, were the Shet of less than three chains in width to be measured into a separate number, much soil would be lost by the boundary marks, and it would be difficult to show the number in the village map.

17. As it is not desirable to have more numbers containing different descriptions of land, *viz.*, garden, rice, and dry crop, than can be avoided, a Shet containing only one of these descriptions should not be included in the same number with another which does not contain the same kind of land. In connection with this, the following explanatory rules are given, to show what kinds of undersized Shets may be measured together into one number.

(i) Shets consisting entirely of garden land are only to be included in the same number with Shets of the same description, or with Shets consisting of rice and garden land.

(ii) Shets consisting entirely of rice land are only to be included in the same number with Shets of the same description, or with Shets consisting of rice and garden land.

(iii) Shets consisting of garden and rice land, are only to be included in the same number with Shets of the same description, or with entirely rice or garden land Shets.

(iv) Shets consisting of garden and dry crop land, are only to be included in the same number with Shets of the same description, or with Shets consisting entirely of dry crop land.

(v) Shets consisting of rice and dry crop land, are only to be included in the same number with Shets of the same description, or with Shets consisting entirely of dry crop land.

(vi) Shets consisting entirely of dry crop soil, are only to be included in the same number with Shets of the same description, or with Shets made up of dry crop and garden land, or with Shets consisting of dry crop and rice land.

(vii) Shets consisting of garden, rice, and dry crop land, should not be measured in the same number with any other than Shets of the same description.

18. Shets held on different tenures, such as Government, Sarva Inam, Jodi Inam, Service Inam, etc., or Shets held on the same tenure, but belonging to separate Watans, as Desai's, Deshpandia's, Patel's, Shanbhog's, etc., should not be included in the same number, but should be measured separately; but when two or more small Shets held on the same tenure whether Sarva

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Inam, or Jodi Inam, or Service Inam, etc., adjoin each other, and do not belong to separate Watans, they should be included in the same number, in the manner directed above. In short, there is no objection to including undersized Inam Shets of the same denomination, when not belonging to separate Watans, in the same number; but undersized Inam Shets of different denominations, or belonging to different Watans, should not be included in the same number, although they may adjoin each other.

19. When a Shet, greater in extent than the size required for a number, adjoins another which falls short of that size, land should not be taken from the former and measured into a number with the latter. For example, if a Shet of 10 acres adjoins another of 3 acres, then the larger Shet being above the standard size for a number, should be divided into two numbers under the rules, and the smaller Shet of 3 acres measured as a separate number; that is, provided the smaller Shet does not adjoin another, also below the size required for a numbe..

20. If a Shet, less in extent than the size required for a number, has not another Shet of similar extent adjoining it, but has waste land, then so much of the waste may be measured with the Shet as is requisite to make a number of the prescribed minimum size; but on no account is more of the waste than is necessary to form such a number to be taken.

21. When a Shet, which has sufficient land to make a number of the prescribed minimum size, adjoins waste land, the waste should never be measured into the same number with the Shet, even if there is not enough of it to make a separate number, of the prescribed size, but should be measured as a separate number by itself. But in case a Karda, having a Shet which falls short of the maximum size for a number, wishes to have a portion of waste included in the same number with his Shet, a Kabuliat (agreement) should be obtained from him to that effect, and forwarded immediately to the Assistant Superintendent, after which the waste should be measured into the same number with his Shet, and a remark written in the fair field book, showing the reason for having done so. On no account, however, should more waste be included in the number than is necessary to make it of the prescribed maximum size.

22. In dividing waste land into numbers, if the old boundaries, according to which the land was formerly cultivated, can be seen, they should not be needlessly set aside and fresh lines of boundary adopted; for by so doing, inconvenience may arise to cultivators, who may afterwards wish to cultivate the land; but if the old boundaries cannot be seen, or if the land has lain waste for many years, then the numbers should be measured according to any convenient boundary lines; and, in order to suit the convenience of the raiyats, they should be made of various sizes, within the limits laid down. They should not, however,

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be made of a triangular or other form, inconvenient for cultivation, when this can be avoided.

23. In consequence of the Government Order prohibiting the cutting down of teak trees, these have increased in number in some shets in taluks adjoining the Ghats, and the land taken up by them is left uncultivated. When a shet of this description is met with, and it would be convenient to measure the land taken up by the trees separately, it should be explained to the Karda that in case of the land in question being measured in the same number with the rest of his shet, he will have to pay the assessment for it. In the event of his then objecting to its being so measured, his wish should be complied with, and the land occupied by the trees measured in any other number with adjoining waste, or into a separate number by itself, and the rest of the shet measured into a separate number also, according to the rules.

24. In dividing the lands into numbers, according to the foregoing rules, it is desirable, in places where existing lines of boundary are not of a permanent nature, to have the new ones laid down as straight as possible, and in situations where the boundary marks are not likely to be washed away. To effect this, small bends may be set aside in adjoining shets, in such a manner that a shet, having a slip of land taken from it in one place, shall have another of a similar size added to it in another, from the shet, to which the first piece was added. The breadth at the bends of the slips thus exchanged must not, in large broad dry crop numbers, exceed four annas, and in small narrow ones, two annas, and in the case of garden and rice land numbers, the boundary marks whether earthen ridges or stones, should be made to fall on the existing boundary lines, and not on either side of them.

25. In dividing a large shet, either of dry crop or garden land, into two or more numbers, any existing boundary ridges, so far as they will answer the purpose, should be made the lines of boundary between the numbers, so that the Karda's mode of cultivating his shet, may not be wantonly interfered with; and in case the shet be rice land, the cross embankments should on all occasions be adopted as the new lines of boundary between the numbers.

26. The site of a deserted village should be measured into a separate number; adjoining land should not be included in the same number with it.

27. The site of an inhabited village, according to the old records, should not be measured as a whole; but after the village lands are all measured, such of the culturable Pardias (enclosures) within the site of the village as are more than half an acre in extent, are to be measured separately, and to have stones placed at their corners and bends; and they should be shown in the

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village map by dotted lines. These Pardias should form a separate series of numbers, and their measurement should be entered at the end of the field book, in order that the question of assessing them may be afterwards considered.

28. Lumbanis, and such like wandering tribes, often erect huts, and, as it were, form small villages, in the taluks bordering on the Ghats. When such places are met with, they should, with their cultivated Pardias, be measured into separate numbers, in the same manner as the sites of deserted villages.

Note 1.—The main object of these rules is that as far as possible separate numbers should be made of all the holdings entered in the Revenue accounts.

Note 2.—A khate should not be so divided as to include a portion of it in one survey number and the remainder in another man's number.

Note 3.—While dividing land into survey numbers under the above rules, if the difference between the estimated extent and the actual area is less than one acre in the case of dry crop and half an acre in the case of rice and garden lands, the numbers may nevertheless be confirmed with the sanction of the Assistant Superintendent.

29. *Separation of Government and Inam fields.*- -Government and inam fields should be constituted into separate fields as far as possible.

30. *Division of land dependent upon different sources of irrigation.*—When a field is dependent for its cultivation upon tank, well, stream or river channel, the area so dependent upon each source of irrigation should be separated and constituted into separate numbers subject to the minimum prescribed by Government. When separation is not possible, the area dependent upon each class of irrigation should be measured and shown separately in the field books as far as possible.

31. *Extent of lands to be left uncultivated below tank bunds and channels.*—In the case of lands under tank bunds, river irrigation channels and feeder channels, the following Government Order No. 21429—R. F. 183-92, dated 18th June 1893, which prescribes the margin to be reserved, should be followed:—

Extent of lands to be left uncultivated below tank bunds.—(1) Below the bottom of rear slope of bunds of all tanks in *maidan* taluks, irrigating more than 20 acres of wet land, a margin, 10 feet wide, should be left uncultivated. The boundary line should be demarcated by the Revenue Survey Department, if that has not been done previously. Where the line has been wrongly laid down, *i.e.*, without affording the full 10 feet margin prescribed, a new alignment is to be laid down by the same agency.

If, however, a distribution channel from a sluice runs along

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the toe of the bund within the margin above described, cultivation will be allowed up to the channel.

(2) Below the bunds of tanks, irrigating 20 acres and less, the margin to be left is 5 feet, unless where a marginal demarcation of greater width has already been laid down and no cultivation exists beyond it, as under Rule 1, a distribution channel, running along the foot of the bund, will mark the marginal limit, irrespective of its distance from the bund.

The rule prescribing the margins for tank bunds (Rule 2) is also applicable to all river channels and to feeder channels which may be specially notified by the Public Works Department as coming under this rule.

In the case of *malnad* tanks irrigating 100 acres and upwards, Rule 1 will apply in full.

For the purpose of these rules, the following taluks will be treated as *malnad*.

Shimoga District.—The taluks of Tirthahalli, Sagar and Nagar and the Maganis of Sorab, Kasnur, Chandragutti, Chittur, Shigga and Heche in the Sorab Taluk and the magnis of Belandur and Barur and the Danandur village of the Danandur Magani in the Shikarpur Taluk.

Hassan District.—Byagadahalli, Maranahalli and Hanabal Hoblis of the Manjarabad Taluk.

Kadur District.—The Taluks of Koppa and Mudgere and the Maganis of Lingadahalli and Lakvalli in the Tarikere Taluk and of Vastara, Annur, Kadajalnad, Taladarnad, Aldur, Jagar, Siravasi and Lingenahalli in the Chikmagalur Taluk.

32. *Trigonometrical Stations.*—All the stations of the Trigonometrical Survey should be fixed at time of measuring, and shown by sign ⊙ on the village and taluk maps.

Note:—It would be advisable on the survey of a taluk being commenced, for Assistants to apply to the Deputy Superintendent for a list of the stations, which it is requisite to identify.

33. *The margin to be left on the side of High Roads* is as follows:—

(i) *When the land concerned is dry crop land—*

(*a*) If there is only one ditch, 10 annas from that ditch,

(*b*) If there are two ditches, and there is a distance of 10 annas or more between the ditches, 2 annas from the outer ditch,

(*c*) If there is less than 10 annas between the ditches, 10 annas from the inner ditch,

(*d*) If there is no ditch at all, 12 annas from the road side.

(ii) *When it is rice land—*

(*a*) If there is one ditch and the road and cultivation are on the same level, 2 annas from the ditch.

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(*b*) If the road is above the level of the rice lands, 3 annas from the bottom of the slope.

(iii) *When it is garden land*—

(*a*) The boundary marks should be 5 annas from the road in case the garden is waste.

(*b*) When the garden is cultivated, the hedge wherever it may be should be considered the boundary of the number.

Any plot adjoining the road whether dry, rice, or garden, where it has been customary to dig gravel or pile metal, etc., should be included in the road.

Other plots situated in cultivable numbers within the limits of the village, but specially set apart for such purposes, may be made into separate numbers, but no bandhs need be put up, all the demarcation being done by stones only.

34. *Shamil wazai measurements are forbidden* as a rule.—The base on which every survey number is measured should as far as possible lie within that number. No one measurement taken in the field should be made applicable to two survey numbers.

35. *Measurement of mixed Survey numbers.*—The following rules are laid down regarding pieces of "khushki" in "misrit" numbers which are not "pattees":—

(1) In numbers of more than half an acre separate bits of "khushki" under one gunta need not be measured or noticed at all.

(2) In numbers under half an acre, they must be measured by taking length and average breadth, if there are three or more pieces or pattees of "khushki" in the number of upwards of half a gunta each.

(3) In numbers over half an acre, bits of "Khushki" over one and under 6 guntas, need not be measured "waslawar," the length and average breadth only may be taken. All pieces over six guntas must be measured "waslawar" in the usual manner.

(4) In numbers under half an acre, bits of "khushki" under three guntas need not be measured "waslawar," length and average breadth may be taken and recorded; pieces over three guntas must be measured "waslawar" in the usual way.

Regarding strips, i.e., "*Pattees*" *of* "*Khushki.*"

(5) No pattees of less than two annas width need be measured or noticed.

(6) A pattee of "Khushki" often forms the boundary of a number, the marks being put up about the middle; if the average width of this "Pattee" does not exceed four annas, that is two annas to each number, it need not be measured or noticed; but should a portion more than two annas wide fall in one number it must be measured by taking average breadth and length.

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(7) All "pattees" of "khushki" in the body of a number, of more than two annas average breadth, must be measured by taking length and average breadth.

Regarding "Tari" and "Khushki" numbers—

(8) All tari of more than one gunta in "khushki" numbers must be measured "waslawar"; pieces under one gunta need not be measured or noticed.

(9) In measuring bits of "khushki" in "tari" numbers or bits of "tari" in "khushki" numbers, useless "waslas" should not be taken; "Darsod" or "give and take" up to two annas may be taken.

(10) All "tari" in "khushki" numbers or "khushki" in "tari" numbers which may be noticed and measured under the above rules, must be invariably shown in the boundary mark sketches, and each piece be distinguished by a number, to enable the classer to identify it; the same identifying numbers must be shown opposite to each "wasla" in the detail of measurement.

(11) These rules apply to mixed numbers of every kind, whether "Tari" and "Khushki," "Tari" and "Bagayet", "Khushki" and "Tari", or "Bagayet" and "Khushki".

36. *Rules for measuring lands below irrigational channels.*

1. Each holding should be measured into a separate number, regard being had to the prescribed minima and maxima.

2. Two or more holdings may be clubbed together if the total area does not exceed 20 guntas, entering the extent of each holding as a "*pot*" number.

3. The rules in force regarding channels as to measurement, delineation on map, and boundary marks, should be strictly observed.

4. None but lands irrigated or likely to be irrigated by the channels should be measured as such; all land situated between the channel and the river may be considered irrigable; unculturable lands thus situated should also be measured, Government lands being always separated from private holdings.

5. Inam land should be measured separately, but block measurement is all that is needed.

37. *Procedure when a river, nalla or road forms the boundary.*—When a river, road or nalla forms the boundary between two villages, the first measurer has to take the breadth thereof and show the opposite side in his kacha map with dotted line. The measurer of the second village will also take offsets to every "*katri*" and bend of the former, showing the breadth in his map also, one half of the area being credited to each village.

38. *Gundu topes, burial grounds, etc.*—Land set apart for the plantation of village groves, (Gundu topes), burial places, etc., should be measured into separate survey numbers and classed as

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unculturable. But salt pans and works connected with the manufacture of earth salt, should, when surrounded by culturable land, be included in such, and classed as culturable.

Gundu topes should be measured into separate survey numbers and treated as *kharab*, but charitable topes on which *kandayam* is being paid should be treated as cultivated land.

39. *Cultivation in the beds of tanks.*—Any cultivation found to exist in the bed of any registered tank whether Government or Inam, is not to be noticed but should be included in the bed; the measurer, however, should report the existence of such cultivation to the Assistant.

N.B.—The boundary of a tank should be taken at the level it would reach when full.

40. *When a channel or a high road passes through a survey number.*—When a channel passes through a survey number but not along its boundary, the width of the channel and the necessary reserve on both sides, should be measured and shown as 'pot' kharab.

41. *Soppinamadi.*—Fields known as *Soppinamadi* or *kiremadi* should be made into separate survey numbers and not clubbed with others.

Those on which some old assessment is being levied should be treated as cultivable and others as *kharab.*

42. *Coffee Estates.*—A coffee estate when upwards of 100 acres in a ring fence should, although the land composing it originally belonged to several of the adjoining villages, be measured into one survey number, map and books prepared as if it were a separate village and demarcated according to the rules for Parampok numbers. The natural features of the ground as well as houses, roads, etc., should be shown on the map.

Coffee holdings are measured into survey numbers of the village to which they belong. If the holding is above the prescribed minimum, it should be made into one survey number; holdings of less than that area, may be clubbed together until the survey number so formed exceeds the minimum. When boundary marks of a permanent nature, such as ditches, already exist, only stones need be fixed under the Rules; if no permanent marks exist, bandhs, etc., as in ordinary cultivated numbers, are necessary.

43. *Kavals.*—Kavals are of two descriptions *viz.*, Nagadi and Amritmahal kavals; the former should be divided into numbers in the same manner as waste lands are.

Amritmahal kavals should be measured by traverse, into one survey number, whatever their area may be, whether there is cultivation within or not. For measuring large kavals, paid flag holders may be entertained, when necessary, at the current

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rates of labour and the cost debited to the Amritmahal Department, together with their share of cost of boundary marks.

The maps of Amritmahal kavals should be plotted on half the usual scale.

The whole of the disputed boundary of an Amritmahal kaval should be settled at once for the sake of convenience of the officials of that Department, after due notice is given to the Head of that Department.

44. *Date groves.*—In the case of date groves (Shendy bans) when the trees grow thickly together, the land should be measured into survey numbers of about 50 acres each, or with the sanction of the Assistant Superintendent up to 100 acres each, and entered as Parampok. Culturable land should not be included in such numbers. Should the "Ban" consist of only two acres even, it should be made into a separate number. When the trees are scattered, 5 or 10 to the acre, the land should be broken up into numbers in the same manner as waste lands are.

45. *Reserved forests.*—Reserved forests in one block should be measured into one survey number, irrespective of the villages to which the lands composing them originally belonged; they are usually already demarcated by a ditch, etc., by the Forest Department; this line of boundary should be strictly adhered to by the Survey.

While measuring forests, the subordinates or the coolies of that Department are not to be used for holding flags or constructing boundary marks, but bills may be made out against the Forest Department for the cost incurred.

Boundary marks should be erected round forests in the same manner as they are erected round large Parampok numbers.

46. *Waste lands to be made separate survey numbers.*—In such portions of the *malnad* districts, where the *warg* tenure prevails, the uncultivated portions of the *warg* should, whenever possible, be measured into separate survey numbers and not included with the cultivated portions. No rice number of over 5 acres, should ever have more than one-fourth of its area composed of such uncultivated waste.

47. *Kans.*—"Kans" *i.e.* evergreen, pepper bearing forests, should be measured into one survey number each, as far as they belong to one village. Dry jungle, Soppinabetta, or waste lands should not, if possible, be included in "Kan" numbers.

48. *Kan, Jungle and Soppinabetta to be separated.*—Assistants should see that "Kan", "Jungle" and "Soppinabetta" are made into separate numbers in the *malnad*, and that all groups of houses are measured into "Gavtan."

49. *Extent of Soppinabetta numbers.*—"Soppinabetta" or "Karada Byan" *i.e.*, lands supplying leaves or hill grass for

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manuring supari and other lands should be measured into survey numbers of about 50 acres each. Other descriptions of land whether culturable or unculturable should not, if possible, be included in such numbers.

50. *Rules for fixing the breadth of rivers or other inaccessible points generally, without the use of Theodolite.*

(1) WITHOUT CROSS STAFF.

In the diagram hereto appended, the stones 1, 2 and G are supposed to have been already fixed by the measurer of Hoshalli, and the measurer of Hirode wants to fix one of them, say G, on his side of the river; he has the points HF and on the same side, and at any convenient spot he places a flag in line with FG say at point K and then measures FK. He next measures HK, and chains back half the distance to the point of bisection at J, where he fixes a flag. After this he aligns a flag L with JF and makes JL equal to JF. All that the measurer has now to do is to get the flags HLI and GJI in a straight line, when LI will be found to be equal to FG.

To plot this, the measurer has HF already fixed on his map, and he can fix the point K, by plotting the distance HK, and FK with his compasses by arcs. Having thus fixed K on the map, he rules KF and produces it to G making FG equal to LI.

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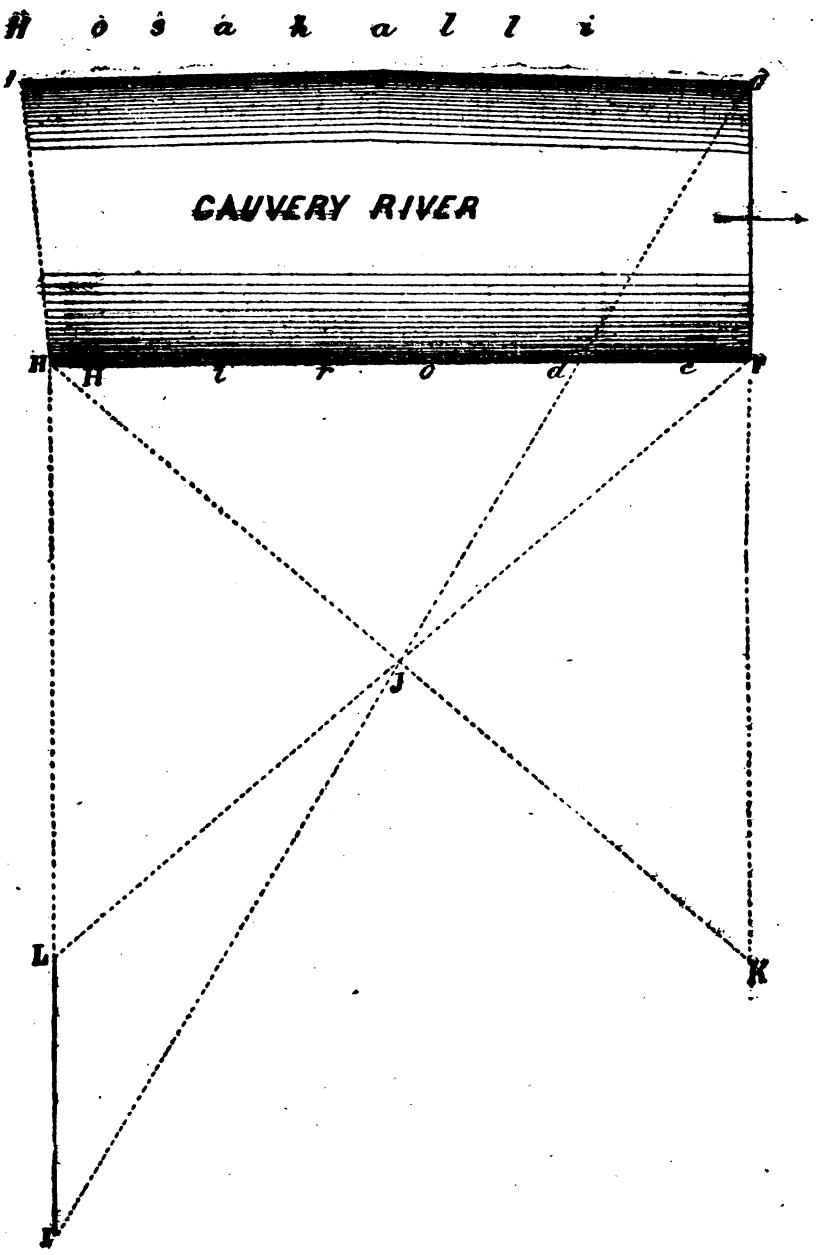

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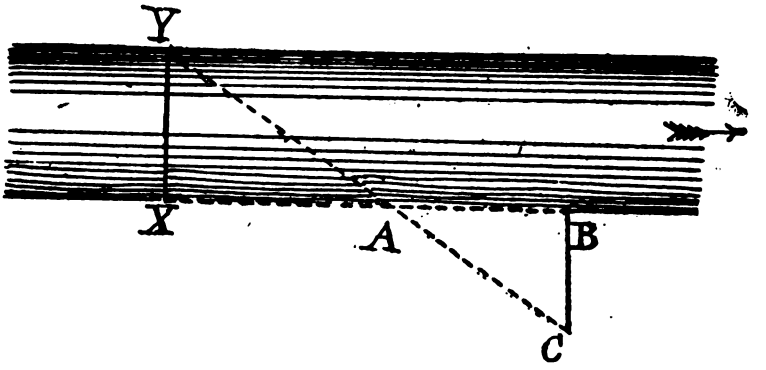
(2) WITH CROSS STAFF.

In order to find out the breadth XY, set up the cross staff at X and lay off XA at right angles to XY, measure XA and produce it to B so that XA may be equal to AB. Then bring the cross staff to B and take an offset BC on the base XAB so that the point C may be in a straignt line with YA. Thus BC is equal to XY which is the breadth of the river.



APPENDIX.

Rules which were in force regarding the size of survey numbers when Survey operations were commenced in the Chitaldrug District.

(1) Dry crop soil, whether cultivated or waste, of which more than a moiety is black, or dark brown, should be divided into "Numbers," of from 12 to 25 acres each; but 36 acres is to be the maximum for such "Numbers" when the land is all cultivated by one "Karda."

(2) Dry crop soil, whether cultivated or waste, of which more than a moiety is of a red, light brown, or grey colour, should be divided into "Numbers," of from 10 to 20 acres each; but 30 acres is to be the maximum for such "Numbers" when the land is all cultivated by one "Karda."

(3) Rice land, whether cultivated or waste, should be divided into "Numbers", of from 3 to 10 acres each; but 15 acres is to be the maximum for such "Numbers" when the land is all cultivated by one "Karda".

(4) Garden land, whether cultivated or waste, should be divided into "Numbers" of from 1 to 5 acres each; but 10 acres is to be the maximum for such "Numbers", when the land is all cultivated by one "Karda".

(5) In dividing land, in which garden produce, rice, and dry crops, are raised, into "Numbers" of the areas laid down in the above Rules, one acre of garden, or two of rice, are to be calculated as four of dry crop soil; in order to determine the size of the "Number".

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Note.—Inasmuch as some of the Measurers have felt a difficulty in estimating the extent of "Shets" containing both rice land and dry crop soil, which should be measured into one "Number" of the standard size, it is hereby decided that the extent of a "Shet", containing both these kinds of soil, which has less than three acres of rice land in it, shall be estimated as if it were dry crop soil, and measured into a "Number" as such. For instance, if a "Shet" has two acres of rice land, and four acres of dry crop soil, it should be estimated as having eight acres of dry crop soil, and measured into one "Number" with an adjoining "Shet" of less extent than the standard size for a "Number". But a "Shet" having three acres, or more than three acres, of rice land, should not be measured in the same "Number" with another "Shet".

(6) "Shets" which neither exceed nor fall short of the limits laid down in the above rules, should be made into separate "Numbers" and not be mixed up with portions of other "Shets".

(7) "Shets" which exceed the limits laid down in the above rules, should be divided into two or more "Numbers"; for example:—

1st. When a dry crop "Shet", of black or dark brown soil, contains 46 acres, it should be divided into two "Numbers".

2nd. When a dry crop "Shet", of black or dark brown soil, contains 68 acres, it should be divided into two "Numbers"; but if the soil be red, it should be divided into three "Numbers".

3rd. If a rice "Shet" contains 25 acres, it should be divided into two "Numbers".

4th. If a garden "Shet" contains 12 acres, it should be divided into two "Numbers".

CHAPTER IV.

Base Line.

1. However limited the extent of the lands of a village may be, a Base-line should in the first instance be laid down through them, to prevent errors occurring in the Village Map. If the line can be measured from one extremity of the village boundary to the other, so much the better: if not, a portion of the lands which are flat, and most free from jungle and crops, should be selected, and the line measured of as great length as possible. The two ends of the Base-line should be fixed on boundaries, or corners of "Shets," which will afterwards be adopted for the limits of "Numbers," and a signal should be erected at each.

2. It is not necessary to measure the whole length of the Base-line at once. Those "Numbers" through which it passes

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should be measured consecutively, and as this is being done, the length of the line through each should be measured separately.

3. The first in the series of Village "Numbers" should be measured at one or other extremity of the Base-line, and in measuring it, the plan of raising perpendiculars from the line to the bends and corners within range should be adopted. After which any portion of the "Number" which may remain should be measured, by adopting any other convenient line on which to raise perpendiculars. But when it is not possible to measure any portion of the "Number" by raising perpendiculars on the Base-line, then any other line may be taken for the purpose; and after the "Number" is so measured, in order that the whole length of the Base-line may be known, that portion of it which passes through the "Number" should be measured, and noted in the rough Field Book.

4. That the above two rules may be properly understood, a sketch is appended, in which AG is the Base-line. After fixing it, No. 1 in the series of Village "Numbers" is shown, as being measured by perpendiculars raised to the bends and corners on AB, the portion of the line which passes through the "Number." Next, the measurement of No. 2 is shown. In it, assuming that it is not convenient to carry on the measurements by perpendiculars raised on the Base-line, they are shown as raised on another line. The length, BC, of that portion of the line which passes through the "Number" is then measured, and the measurements of No. 3 commenced. A part of this "Number" is shown as measured by perpendiculars raised on CD, the portion of the line which passes through it, and the "Number" completed by perpendiculars raised on a separate line. The rest of the "Numbers" falling on the line AG are represented as being measured in the same way. It will be necessary, however, to study the whole sketch carefully, to arrive at a thorough knowledge of the method.

5. After having settled the direction of the Base-line, and measured the "Numbers" through which it passes, according to the preceding four rules, if the village is very small, there will be no necessity to have a second line; but if the village is not very small, it will be necessary to have more lines, their number being regulated by the size of the village; and here it may be necessary to add, that no labour should be spared to insure correctness in the map, by a sufficient number of lines.

6. When, according to the preceding rule, it is necessary to have more than one Base-line, the second and third lines should be fixed in a direction from the first, but not necessarily from its extremities, nor perpendicular to it. Care must, however, be taken to have them pass through land free from trees and high crops. To understand this, the lines EI and FH are shown in the sketch as Base-lines, drawn from AG, the first

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line; and in order to fix the directions of these lines, EH and FH are measured, the point H then intersected with the compasses, and EH continued to I. In short, if it is necessary to have a second Base-line, in order to describe it on the map, a third must be measured; for without measuring both, it is evident the direction of the second cannot be shown.

7. After fixing the new lines, as directed in the last rule, the signals should be removed from the two extremities of the first line; and in order to mark the places where they stood, pegs should be driven into the ground, and the cultivators of the adjoining fields told to take care of them lest they be removed.

8. The "Numbers" through which each Base-line passes should be measured consecutively, as directed in Rule 2, but if a difficulty should arise, to prevent the measurement of any of them, the one in which the difficulty occurs may be passed over, and the next in order measured; but in this case, that portion of the line which passes through the "Number" passed over must be measured; for if this were not done, it would not be possible to plot the next "Number" in its exact position on the line.

9. After having measured the "Numbers" through which the last lines pass, as directed in the preceding rule, those lands which remain intermediately between the lines should be measured; and then, as may be necessary, other lines should be laid down, and the lands through which they pass measured. The Base-line F H, shown in the example, is, however, too short, and therefore when it can be helped, such short lines should not be laid down. They should be as long as possible, for the longer they are, the less the labour connected with them. Besides, whether a "Number" is measured by perpendiculars raised from the Base-line, or otherwise, the extremity to which measurement is taken, of that portion of the line which passes through the "Number," should be well marked with Chunam, in order that the line may be taken up exactly, in measuring the next "Number"; and if the distance be taken to half an anna, so much the better; for inasmuch as the map is to be constructed on the Base-lines, any error in their measurement will cause an error in the map.

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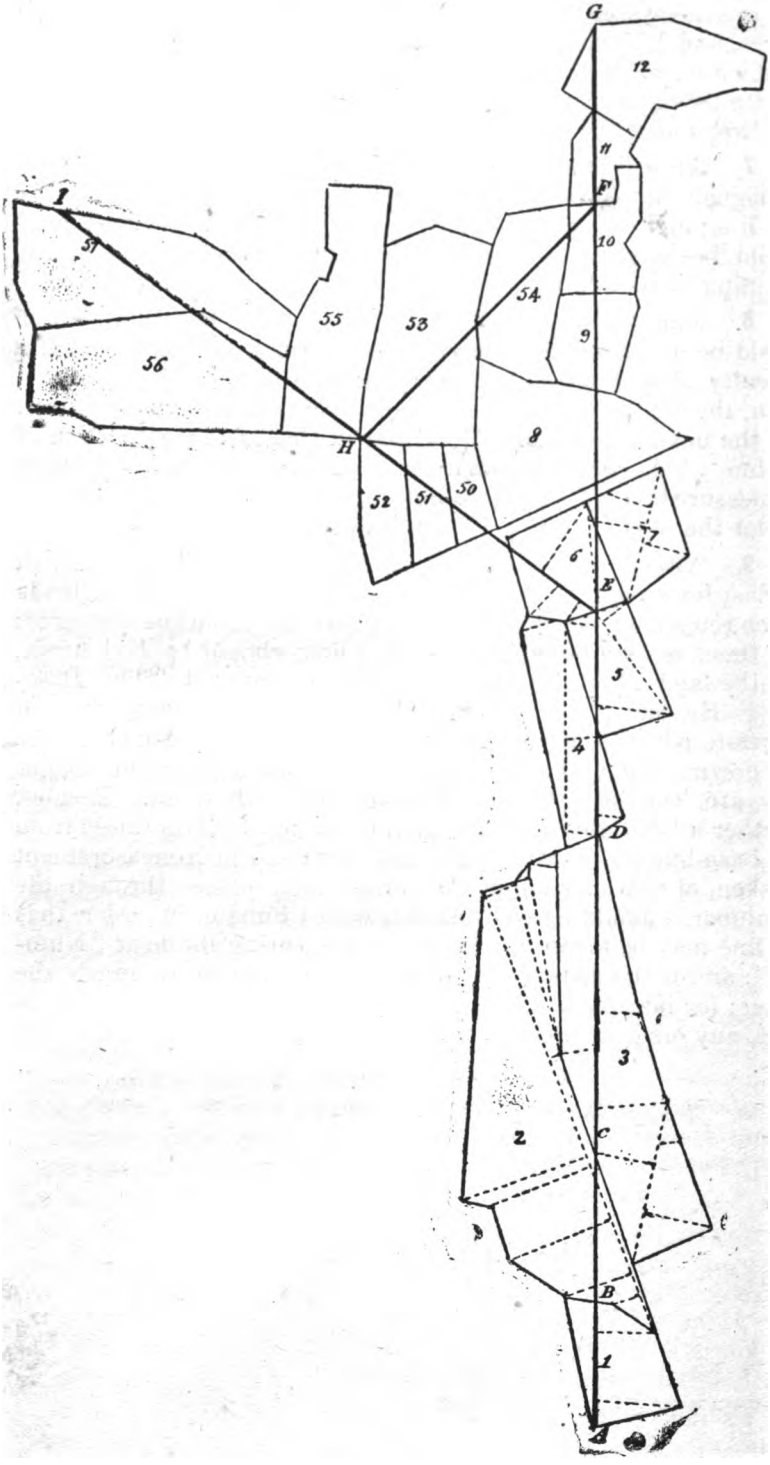
Sketch referred to in Chapter IV relating to Base-Line.



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CHAPTER V.

ROADS.

1. When roads of the descriptions given below go along the boundaries of "fields" and are adopted as the common boundary of two "Numbers," they should not be included in the measurements of those "Numbers," but should be left separate, and have boundary marks erected on each side of them:—

1st. Those along which traders convey their goods to a distance, either on pack bullocks, or carts.

2nd. Those to a neighbouring market, by which goods are constantly conveyed, on horses or bullocks.

3rd. Those along which the cattle of the village under measurement, or those of another village, are constantly in the habit of going.

2. When roads of these three descriptions are enclosed by garden or rice cultivation, or by permanent marks, such as hedges, old earthen ridges, or nallas, the distance between these enclosures should be adopted for their breadth; but in case they are not enclosed by garden, or rice cultivation, or by permanent marks, they should be made one chain broad.

3. Roads not so much used by carts and bullocks as those mentioned in the first rule, but which go along the boundaries of "fields," and are adopted as the common boundary of two "Numbers," are like those roads, to be excluded from the adjoining "Numbers," and to have boundary marks on each side of them. Their breadth, when bounded by garden or rice cultivation, or by permanent marks, should be regulated by the distance between these enclosures; but in other cases, they should be made 10 annas broad.

4. With one exception (to which allusion will be made hereafter), roads not included in the above classes should not have boundary marks on each side, but should be included in adjoining Numbers, and their areas should be recorded as unculturable. The following rules show how broad they should be made.

5. Those which are enclosed by garden or rice cultivation, or by other permanent marks, should correspond in breadth with the distance between those marks.

6. It frequently happens that the roads near villages, in consequence of being much used by cattle, have no permanent marks on each side, and are more than a chain in breadth. These roads should not have their breadth changed.

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7. When roads of the four descriptions alluded to in Rules 1 and 3 do not form the boundaries of fields, and are not enclosed by garden or rice cultivation, or by permanent marks, then the breadths laid down in those rules respectively should be adopted for them; but in case these roads are enclosed by garden or rice cultivation, or by other permanent marks, then the distance between those marks should be adopted as their breadth.

8. When small roads, which are not used by the carts or bullocks of traders, or by the village carts, but are used merely as footpaths, or by a single horse or bullock occasionally, are well defined by permanent marks on each side, they should be made as broad as the distance between these marks; but if they are not enclosed by permanent marks, four annas should be the breadth allowed for them.

9. Neither earthen ridges nor stones should be put up as boundary marks on roads which, according to the preceding rules, are to be deducted from the contents of the Numbers through which they pass; and therefore, in making marks for the erection of earthen ridges and stones, care should be taken not to make them where these roads and the lines of boundary intersect each other, but at least eight annas from the points of intersection, so as to leave the roadway free of obstruction.

10. If the present roads by which the village cattle go out to graze, and for water, have permanent marks on each side, their breadth should be made equal to the distance between those marks; otherwise they should be made a chain broad. But if, in consequence of the land being uncultivated, there are no fixed roads for the cattle to go to graze and for water, such roads should be laid down; and for this purpose the opinion of the villagers should be taken as to where they should be. When the villagers wish to have the roads through Government waste land, they should be made a chain broad; but if they propose to have them through Inam or cultivated land, the Inamdar or Karda of the land should be consulted, and a report, as to whether he agrees to the proposal, made to the Assistant Superintendent, for his decision. When these roads go through Numbers, their areas should be deducted from the contents of the Numbers, but when they lie along the boundaries of Numbers, they should not be included in them, but should have boundary marks erected on each side, in the same way as the roads alluded to in Rules 1 and 3.

11. The breadths of the roads should in general be made according to the directions given in the preceding rules, but in fixing on the breadth for each road, the Measurer should consult the villagers, and not act entirely on his own judgment. Should their opinion at any time differ from his own, or should their wishes be in opposition to any of the above rules, the Measurer

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should refer the point in dispute for the decision of the Assistant Superintendent.

12. The above rules are not applicable to made roads, which are never to be included in the Numbers adjoining them. In common with other roads so excluded, these also should have boundary marks erected on each side, and these marks should be erected in conformity with Rule 33 of Chapter III.

CHAPTER VI.

Measurement Field Books and Computation of Areas.

1. The Measurers will be supplied with two books, one of inferior, and the other of superior paper, for the purpose of making rough and fair entries of their field measurements; the leaves of which will be signed or stamped by the Superintendent, or one of his Assistants. The Measurers may or may not take the book for the fair entries into the fields with them; but the other they must invariably take, and the entries shown in the following rules are to be made in it.

2. A rough sketch of each Number to be measured should be drawn, and in the first place the boundaries should be chained, and the measurements noted outside of the line representing them on the sketch. In taking these measurements the intermediate distances between bends, points at which the base-line, roads, and nallas cross the boundary lines, and from which the boundaries of other villages branch off, should be marked, as also the breadths of roads, and nallas, and the places at which the boundary marks are to be erected.

3. The bases and perpendiculars of the Waslas (*viz.*, figures for measurement into which it is proposed to divide the Number) should then be drawn within the sketch; their distances taken, and written along them plainly; and the Waslas should be numbered in the order in which they are measured.

4. When a road which is to have boundary marks on each side, or a broad nalla is to be made the boundary between Numbers, in order to ascertain the breadth of the road or nalla correctly, the distances of those boundary lines of the Numbers measured first, which if produced would cross the road or nalla, should be taken to the opposite side, and chunam marks made at the points to which they are taken; and subsequently, when the Numbers on the opposite side are being measured, off-sets should be taken to these chunam marks. This measure will ensure

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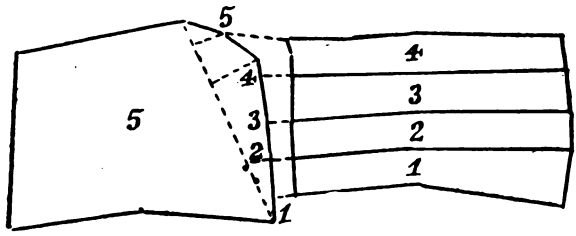
correctness in plotting these Numbers on the Village Map. The following example will illustrate what is meant:—



In this example the boundary lines of the four Numbers first measured are continued, and the breadth of the nalla taken to five different points on the opposite side, and subsequently, in measuring the fifth Number, perpendiculars are raised to two of these points. These are all it is necessary measure in this example; but in any case two is the least number of points to which lines should be measured for the purpose in view; inasmuch as without two it is not possible to plot the opposite Numbers with relative correctness. The lines to them, however, need not be confined to perpendiculars; other chain lines, when convenient, may be adopted; and their distances in either case should be written along them, inside the rough sketch, and a note made below, showing the number on the opposite side with which the points to which the distances are taken are connected. The breadths of such roads and nallas as are here referred to should always be written outside the rough sketch; and the roads should be shown by dotted lines, and the nallas by continuous ones, drawn parallel to the boundary along which they run.

5. When large or small nallas or roads pass through Numbers, their contour should be shown in the rough sketch, by drawing a double line for a large nalla, a single one for a small one, a single dotted line for a footpath, and two dotted lines for roads of a chain or ten annas in breadth. Temples, trees, etc., should be represented in the manner shown in Appendix No. 1 of this chapter; and as they are to be inserted in their exact positions in the boundary sketch of the fair field book, and in the map, distances should be measured to them, and these distances written below the rough sketch.

6. In case all that should be written, according to the above Rules, in the rough sketch, cannot be plainly entered in one sketch, two may be made for each Number, and part of the entries written in one, and the rest in the other.

7. When a nalla or road passes through a Number, the dimensions of it should be taken from the sketch plotted in the fair field book; but the breadth of it must not be taken along the boundary of the Number, if it crosses it obliquely, for this will

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make the area greater than what it really is. The dimensions of other unculturable portions should be measured in the field; and, in order to avoid confusion in the rough sketch, the positions only of tanks, temples, houses, etc., should be shown in it, and their dimensions entered below it in the manner shown in the form for the rough field book, headed Appendix No. 2 of this Chapter, which must be strictly attended to.

8. It sometimes happens that the slope into the bed of a river or nalla is too steep to admit of any part of it being cultivated. When this is the case, the breadth of the river or nulla should be measured from the commencement of the slope; but when any portion of the slope can be cultivated, the breadth should be measured from that point below which it is impossible to cultivate.

9. If, exclusive of nallas, roads, etc., as enumerated in the preceding Rules, the unculturable portions of a Number consist of rocky or stony patches, the measurer, inasmuch as he will not be able to distinguish their limits properly, should not measure them. The area of such patches will afterwards be estimated by the Classer, who will deduct them as unculturable; but in case a Number is wholly made up of rocky or stony ground, it should be recorded as unculturable.

10. When a large nalla passes through a Number, the lands on each side should be measured as if they belonged to two separate Numbers, and the area of the nalla calculated from the sketch of the Number in the fair field book. This area is then to be added to that of the land measured, and afterwards it, and whatever other unculturable portions there may be, should be deducted as such.

11. If the base-line alluded to in Chapter IV passes through a Number, and perpendiculars have not been raised on it in measuring the Number, it should be shown in the rough sketch, and its length through the Number written outside of it.

12. The entries in the rough field book alluded to in the preceding Rules should be made as shown in Appendix No. 2, unless the Assistant Superintendent orders that they shall be made in any other way. In either case, they may, if it suits convenience, be written wider than the form appended but nothing should be omitted.

13. The fair field book should be written from the rough one, as shown in Appendix No. 3.

14. The first leaf of each fair field book should be left blank, and on the second a diary, according to the form given below, should be written. In the diary the work performed on each day should be mentioned; and on days when no work is done, the cause should be shown; and as the diary should be written regularly, the Assistant Superintendent will make it a

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point to punish severely when he finds it is not so written. Each book should contain the diary for the time entries are made in it, and therefore, as soon as the first book is filled, the diary should be continued on the second.

Moujeh.....

Taluk..... .. District.....

Date	Remarks, showing the work done each day, or the cause for not having worked
May	
10th.	Left Singanhatti, and came to this village this evening.
11th	Measured in the field.
12th	Sunday.
13th	Sick.
14th	Inspected boundary marks.

15. Of the persons the Measurer takes with him into the fields to work, the name of the Patel or Shanbhog or the names of both in case they are present, and those of two of the raiyats, as witnesses, should be entered in the field books; every day. The Measurer is not to say one day, that so and so are with me, and on the day following "The same persons are with me to-day that were with me yesterday."

16. Mention should always be made, in the manner shown in the form, whether or not the Karda (occupant), or Inamdar, or Wahiwatdar (representative of the occupant or Inamdar), of the Number measured, was present at the time. This should be done in order that in case he afterwards objects to the boundaries according to which his Number has been measured, it may be ascertained whether or not he was present at the time; but the names of sub-tenants are not to be entered.

17. The Numbers should in the first place be numbered in the order in which they are measured, but the regular Survey series of them should be arranged and entered when the examination of the field books is being made during the rains. The relative positions of adjoining Numbers should also be entered during that time, subsequently to the examination of the Village Map.

17(*a*). The boundary marks should be noted if possible on the maps and always in the field books on the day of measurement and they should not be allowed to stand over until the Bandh pahani is done.

17(*b*). On the right side of the bandh sketch in the field

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book, a memo of the total number of mounds and stones in that Survey number should be noted by the Measurer.

18. The numbering of the boundary marks, as shown in the form of the boundary-mark sketch, should be done in order, beginning with those marks which are to be erected for the Number under measurement; next the marks which have been erected for adjoining Numbers should be numbered; and lastly permanent boundaries, such as nallas, roads, etc.

19. Roads of a chain, or ten annas in breadth, and large nallas which go along the boundaries of Numbers, should be shown according to measurement in both sketches of the fair field book, in the same way as in the rough book; and roads of four annas in breadth, which run along boundaries, should also be shown in these sketches by a single dotted line. If roads or nallas pass through a Number, they should be shown as mentioned above, according to measurement, in the boundary sketch of the fair field book, but not in the sketch of measurements. The names of roads and rivers should be written outside this sketch; and if the large nallas have names, they also should be written.

20. If the Assistant Superintendent does not appoint any other day, the inspection of the boundary marks should be made every Saturday, and the remark at the end of the form for the fair field book relative to this inspection should be dated accordingly and signed.

21. When different kinds of cultivation (garden, rice, dry crop) are included in one Number, the separate measurements of each kind, as entered in the rough field book, should be shown first in pencil, and afterwards in ink, in the boundary sketch of the fair field book; and in order to distinguish each kind of cultivation, a dotted ink line should be drawn round it, and the initial letter of the kind of cultivation written within. In order to verify whether the different kinds of cultivation have been properly separated or not, small stones daubed with white wash or where there are no stones at hand, clods of earth daubed in the same way should be placed on the lines of boundary between the different measurements.

22. Hedges should be shown in the manner shown in Appendix No. 1, in the boundary sketch of the fair field book, but not in the sketch of measurements.

23. The lines for writing the fair field book should not be drawn at less than ten or more than fifteen chains from each other, according to the scale for the Map. Any waste of paper occasioned by observing a greater distance will be made good by deductions from the pay of the individual who adopts it.

24. Irregularly formed Numbers of less than an acre in extent, or very narrow Numbers, the boundary measurements of

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which cannot be written plainly along the lines which represent them with sufficient clearness, according to the usual scale, shall be plotted on double the usual scale in the Measurer's book, and a remark written near them, to the effect that they are so plotted ; but on no account are Numbers, the boundary measurements of which can be written without difficulty along the lines which represent them, notwithstanding they be small and narrow, to be plotted on double the usual scale; and those Numbers which are plotted on double the usual scale in the Measurer's book should, in the map, be plotted according to the usual scale.

25. When undersized fields are measured together for being formed into a number, the names of the Kardas of these fields, extent owned by each, and their Maji numbers should be entered in the Field book.

Cancellation of measurement of villages.

26. An Assistant Superintendent should not cancel the measurement of any village without the sanction of the Deputy Superintendent.

When the measurement of a village has to be cancelled or the bandh-pahani has to be done over again, the original measurer should not be deputed to correct his work but some other measurer should be sent. As a rule, the pay of the latter who is employed on such corrections should be recovered from the original measurer. All papers connected with the original measurement of a cancelled village must be kept in the Assistant Superintendent's own charge and not in his office until the re-measurement is completed. The original map only should be given to the new measurer to aid him in ascertaining the position of the Survey numbers according to the original measurement. The villagers are bound to supply flag holders and chainmen as in the first instance.

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FORMS REFERRED TO IN CHAPTER VI.

APPENDIX No. I.

A well with one mot.

A well with two mots.

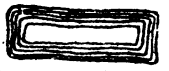
A well without a mot but in repair and formerly used for irrigation.

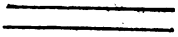
A well with steps.

A well without mot and steps and never used for the purpose of irrigation.

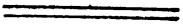
A dry well but in good repair.

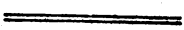
An old dry well out of repair.

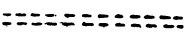

A tank.

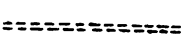

A large Nalla with budaki.

A small Nalla.


Roads which form the boundaries of Numbers and are one chain and ten annas in breadth.




Roads which pass through Numbers of one chain and ten annas in breadth.

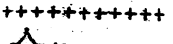


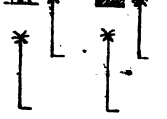
A foot path.

Boundary ridges or mounds.

Boundary stones.

A hedge.


Temples and houses.


Cocoanut trees.

Betelnut trees.

Toddy tree.

Tamarind, Mango and Jack trees.

A Banyan tree.

Other kinds of large trees.

A station in Theodolite measurement.

A tower.

Coffee plant.

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APPENDIX No. 2.

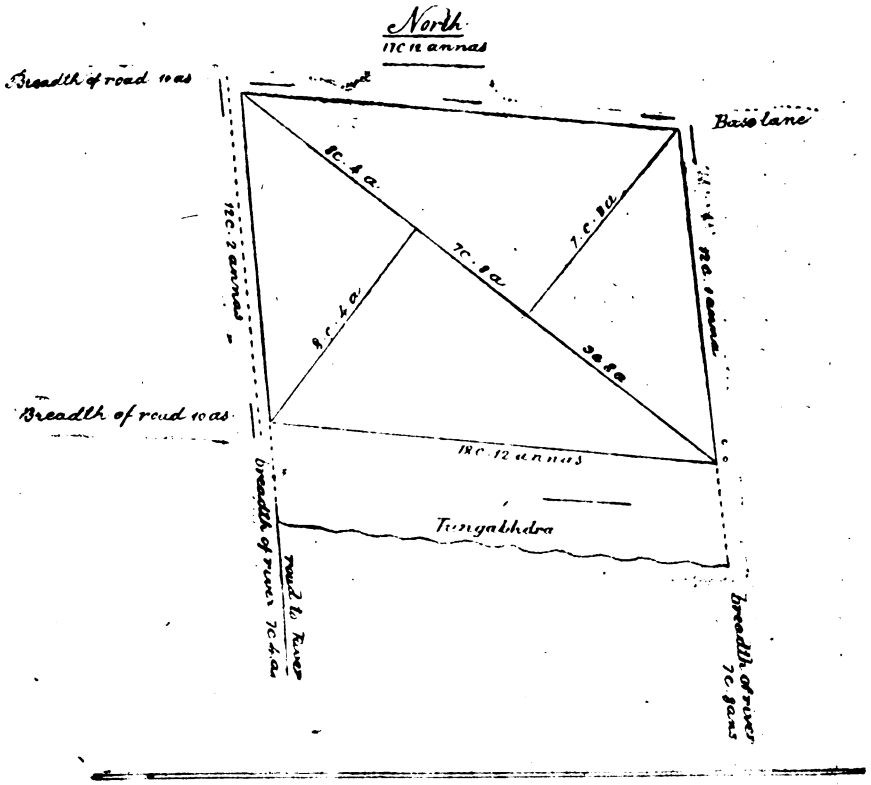
Rough Field Book No. I.

Mouzeh in the Taluk of the District.

November 1st, 1865. Names of persons present while measuring in the field :—

1. Mallan Gowda bin Raman Gowda, Revenue Patel.
1, Ramajee Anant, Shanbhog.
1. Rachapa bin Mallappa Padlahal.
1, Hanmia bin Govinda Sodulgeh.

No. 1, Government dry crop soil, Maji No. 10 entire. "Karda" Hari bin Govinda Ramapoor, present.



No. 12, Sarwa Inam—Dry crop soil, Maji Nos. 12 entire and 18 in part.

Inamdar Hari Gopal, absent,

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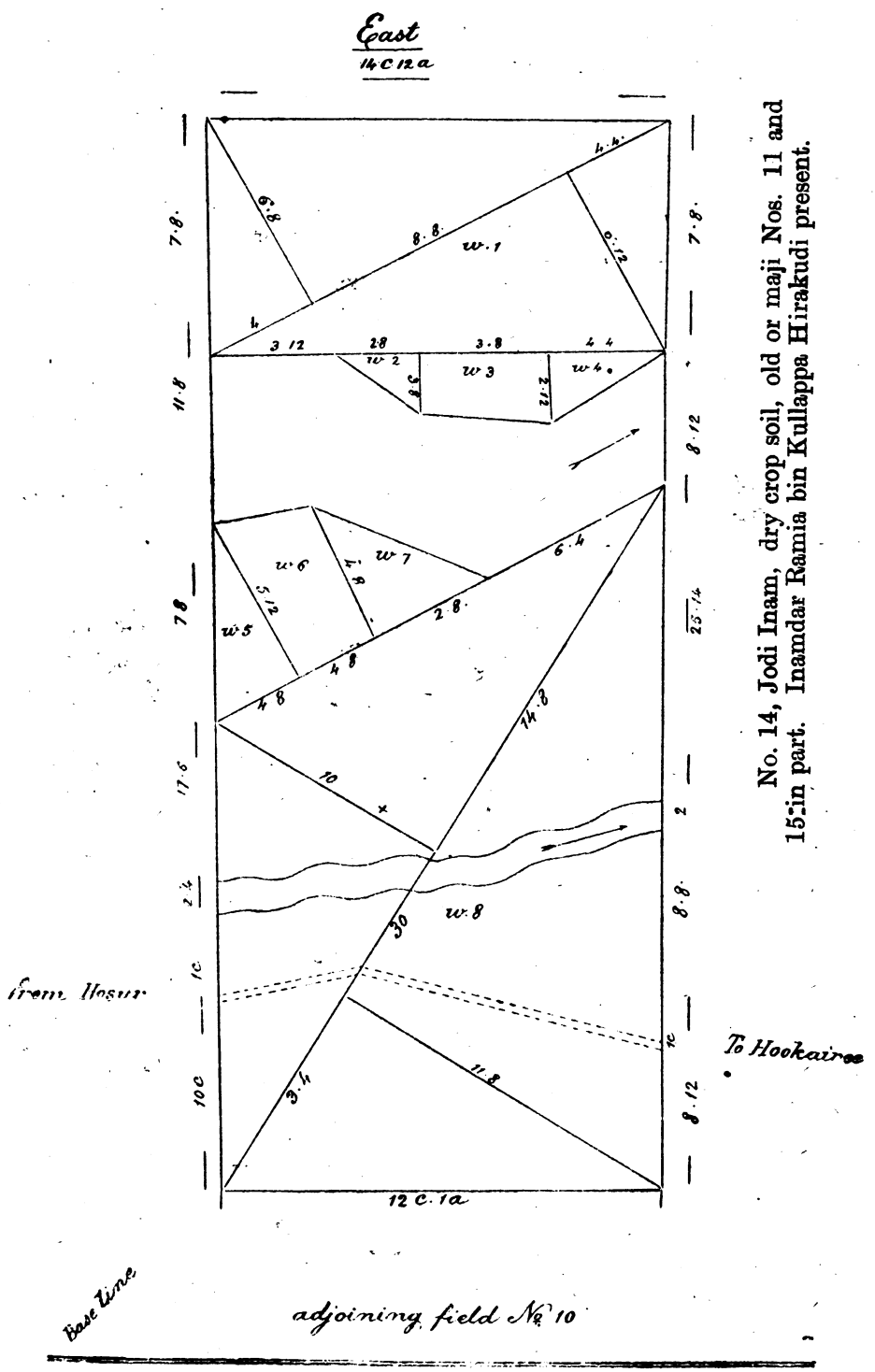
APPENDIX No. 2—*contd.*



No. 14, Jodi Inam, dry crop soil, old or maji Nos. 11 and 15 in part. Inamdar Ramia bin Kullappa Hirakudi present.

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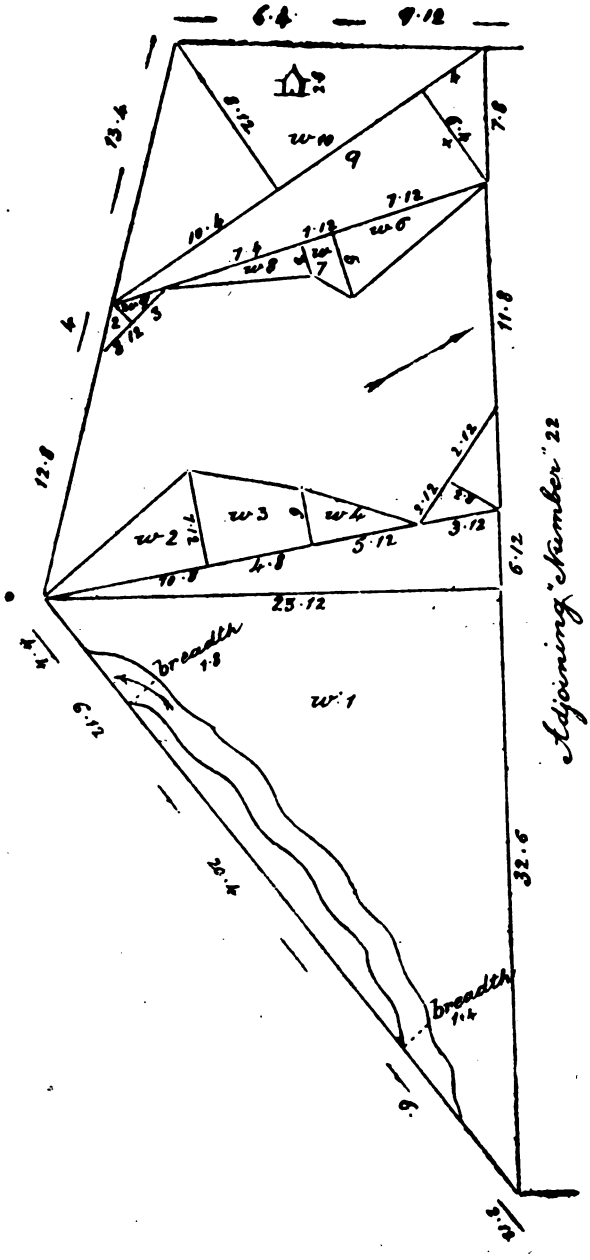
APPENDIX No. 2—*contd.*

East.



Deduct unculturable portion. Wasla 1st four sided, a temple.

Breadths	Length
0·12	1·4
0·12	...

No. 15, Government mixed soil, Maji Nos. 16 entire and 26 and 27 in part. Karda Devjee bin Hari Muktoom present.

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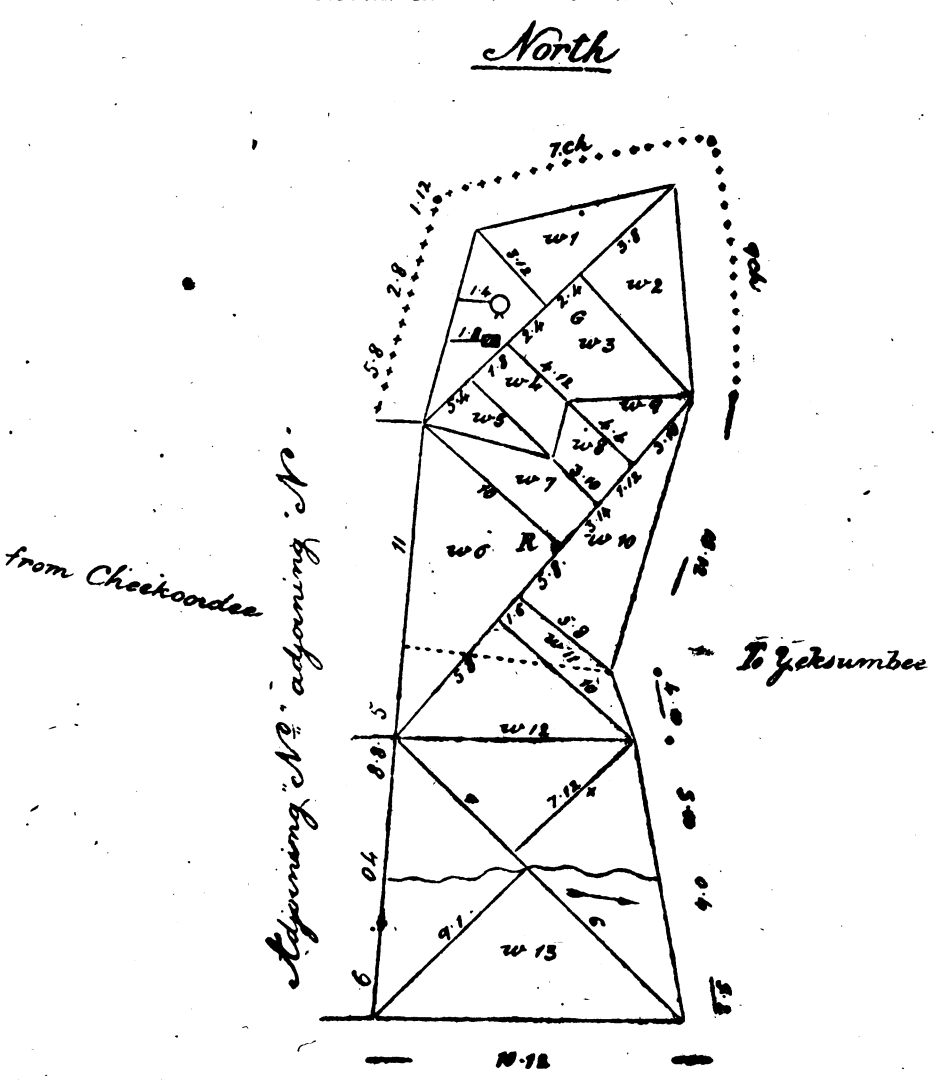
APPENDIX No. 2—*contd.*



Deduct unculturable portions.

Wasla 1st four sided, a well.

Breadths	Length
1·4	1·4
1·4	..

Wasla 2nd four sided a house.

Breadths	Length
1·6	1·8
1·6	...

No. 17 Government mixed soil. Maji Nos. 21 entire and 27 in part. Karda Devanna bin Basappa Kanchinal, present.

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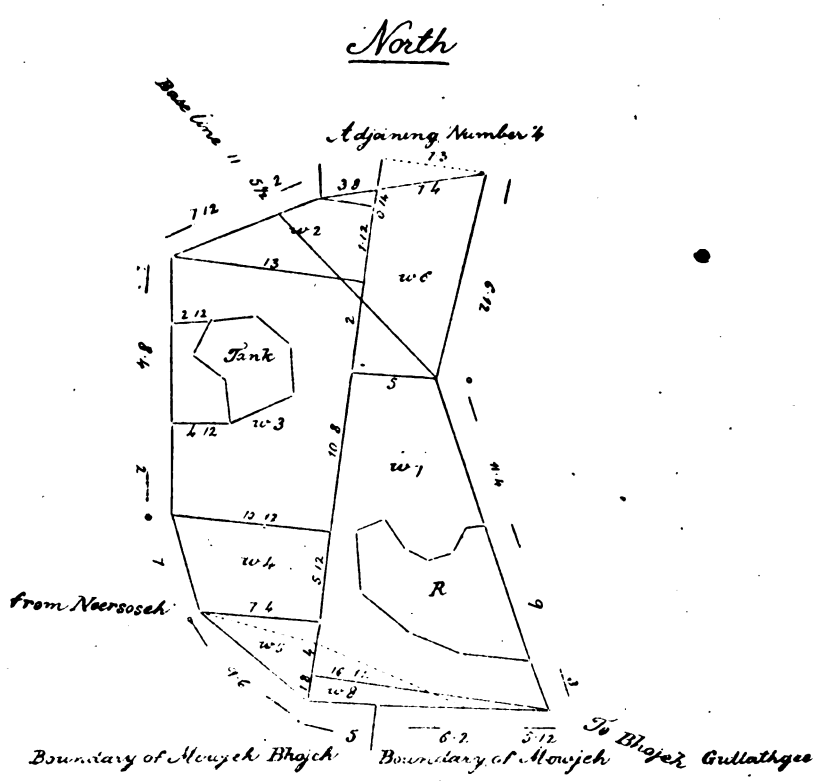
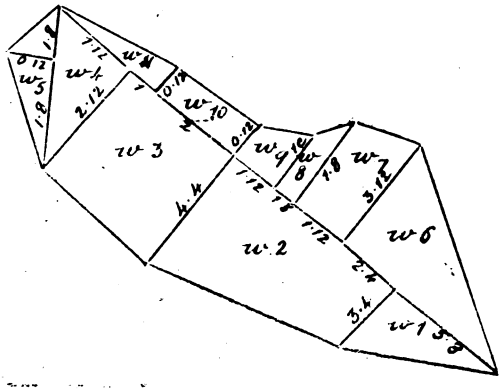
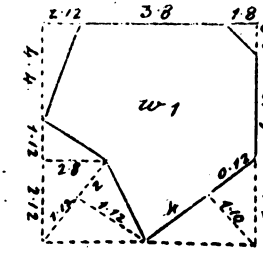
APPENDIX No. 2—*contd.*



Measurement of Rice Land in this number.



Deduct unculturable portion.
A tank in the dry crop soil



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APPENDIX No. 3.

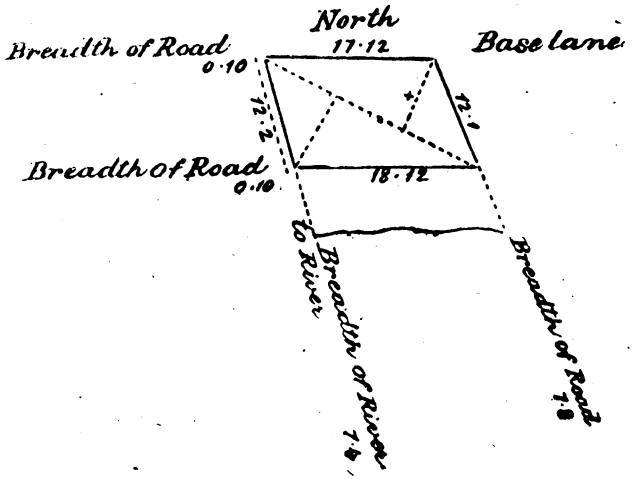
Fair Field Book Number 1.

Mowjeh in the Taluk of the District.

Nov. 1st, 1865.—Names of persons present while measuring in the field:—

1. Mallen Gowda *bin* Raman Gowda, Moolkee Patel.
1. Ramajee Anant, Shanbhog.
1. Rachappa *bin* Mallappa Pudleehal.
1. Hanumia *bin* Govinda Sodulgeh.

"*Number*" 1.—*Revenue Survey* "*Number.*"



To the of the preceding Number Government dry crop soil, of the Ari Marada Hola. Maji Numbers as follows:—

1. No. 10 entire.—"Karda" Hari *bin* Govinda Ramapur, present.

The above Number was measured according to the following Waslas:—

198·13½ Wasla 1st, four sided, cultivated

Breadth, N. E.	Length from S. E.
7 . 8	9 . 8
8 . 4	7 . 8
	8 . 4
15 . 12	25 . 4

Half breadth 7 . 14

198 . 13½

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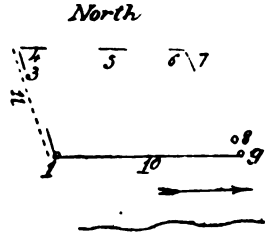
APPENDIX No. 3—*contd.*

G.

Area 198 . 13½

Total acres.	Deduct unculturable	Remaining culturable.
4 . 38 . 13½	0	4 . 38 . 13½

The boundary marks of this "Number" are shown in the following Sketch, and those not yet ready are to be put up under the superintendence of Govinda *bin* Narsoojee, Bandh Peon.



Stones Nos. 1, 8, 9, and earthen ridges Nos. 2, 3, 4, 5, 6, 7, should be erected for this Number. The Thungabhadra River, No. 10, and the Road, No. 11, are permanent Marks.

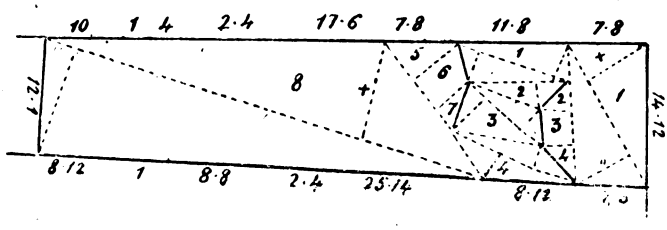
(Signed) WAMAN SAKHARAM,
Measurer.

On this day, Saturday, 7th November 1865, I went into the above "Number," and having inspected the Marks, found them all properly put up, as shown in the above Sketch.

(Signed) WAMAN SAKHARAM,
Measurer.

"Number" 12.—Revenue Survey "Number."

North



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APPENDIX No. 3—*contd.*

Entries to be made here, the same as those made in the foregoing "Number."

687 . 1 Entries for eight Waslas to be made according to the foregoing form.

Total Area 687 . 1

687 . 1

Detail.

43 . 13½ Deduct unculturable portions:—

12 . 8 Wasla 1st, four sided, the road to Chikurdi by Hookairee.

Breadths.	Length.
1	12 . 8
1	
2	

Half breadth 1.

Area 12 . 8

31 . 5½ Wasla 2nd, four sided, a nalla.

Breadths.	Length.
2 . 4	14 . 12
2 . 0	
4 . 4	

Half breadth 2 . 2

Area 31 . 5½

43 . 13½

643 . 3½ Remaining culturable.

687 . 1 Total culturable and unculturable.

135 . 5¾ A large nalla has been included in this "Number," the dimensions of the Waslas of which, taken by scale and compasses from the Sketch, are as follows:—

44 . 6½ Wasla 1st, four sided, a nalla.

Breadths.	Lengths.
3 . 12	1 . 8
3 . 8	8 . 4
7 . 4	2 . 8
	12 . 4

Half breadth 3 . 10

Area 44 . 6½

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APPENDIX No. 3—*contd.*

14 . 7 Wasla 2nd, triangle, a nalla.

Breadth	Lengths.
2 . 12	3 . 12
	6 . 12
	10 . 8

Half breadth 1 . 6
Area 14 . 7

37 . 8 Wasla 3rd, four sided, a nalla.

Breadths.	Lengths.
2 . 4	2 . 14
5 . 4	5 . 4
7 . 8	1 . 14
	10 . 0

Half breadth 3 . 12
Area 37 . 8

39 . 0¼ Wasla 4th, four sided, a nalla.

Breadths.	Lengths.
2 . 10	4 . 8
3 . 0	3 . 8
5 . 10	5 . 14
	13 . 14

Half breadth 2 . 13
Area 39 . 0¼

135 . 5¾

822 . 6¾

Total acres.	Deduct unculturable.	Remaining culturable.
20 . 22 . 6¾	4 . 19 . 3¼	16 . 3 . 3½

The boundary marks of this "Number" are shown in the following sketch, and those not yet ready are to be put up under the superintendence of Govinda bin Narsoojee, Bandh Peon.

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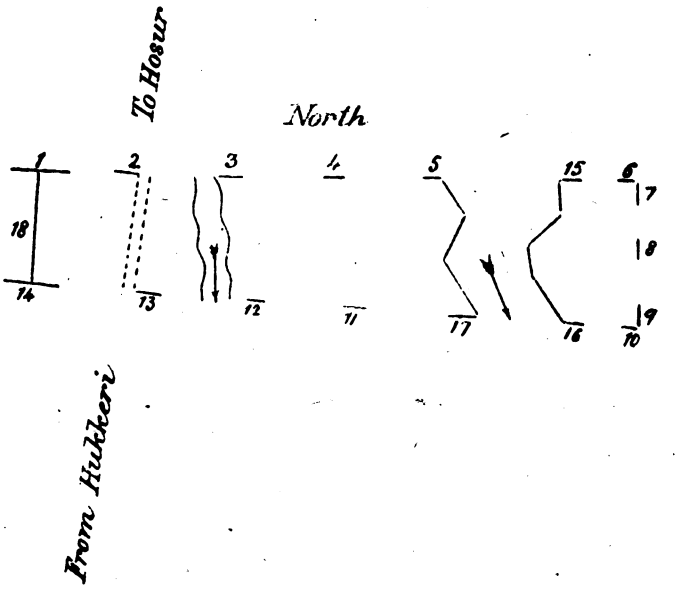
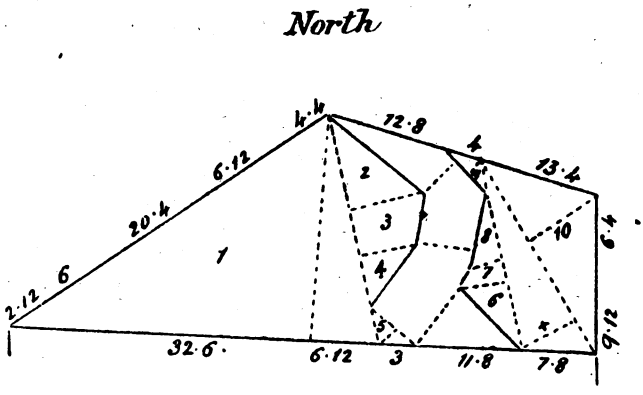
APPENDIX No. 3—*contd.*



The same kind of remarks to be written here as in the form of the foregoing "Number" 1.

"Number" 14.—Revenue Survey "Number."



Entries to be made here as in the foregoing "Number."

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APPENDIX No. 3—*contd.*

698 . 9¼ Entries for 10 Waslas to be made according to form
Area 698 . 9¼

698 . 9¼ Total.

Details.

38 . 1 Deduct unculturable portions :—

37 . 2 Wasla 1st four sided, a small nalla.

Breadths.	Length.
1 . 4	27 . 0
1 . 8	
2 . 12	

Half breadth 1 . 6
Area 37 . 2

0 . 15 Wasla 2nd, four sided, a temple.

Breadths.	Length.
0 . 12	1 . 4
0 . 12	
1 . 8	

Half breadth 0 . 12
Area 0 . 15

38 . 1

660 . 8¼ Remaining culturable.

698 . 5½ Total culturable and unculturable.

148 . 5½ A large nalla has been included in this "Number." The length and average breadths of which taken by scale and compasses are as follows :—

Breadths.	Length,
4 . 14	25 . 4
5 . 14	
6 . 14	
17 . 10	

Average breadths 5 . 14
Area 148 . 5½

846 . 14¾

Total acres.	Deduct unculturable.	Remaining culturable.
21 . 6 . 14¾	4 26 6½	16 . 20 . 8¼

The boundary marks of this "Number" are shown in the following Sketch, and those not yet ready are to be put up under the superintendence of Govinda *bin* Narasoojee, Bandh Peon.

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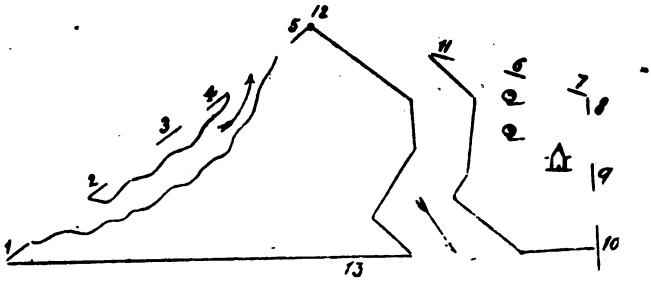
APPENDIX No. 3—*contd.*

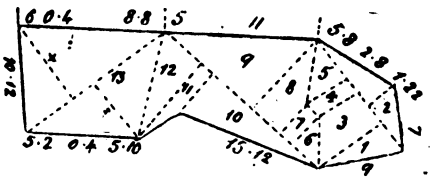
North



The same kind of remarks to be written here as in the form of the foregoing "Number" 1.

"Number" 15—Survey "Number."

North



Entries to be made here as in the foregoing "Number."

92 . 7½ Entries for the first five garden land Waslas to be made according to form.

Total area 92 . 7½

181 . 14¼ Entries from Waslas 6th to 12th inclusive, for rice land, to be made according to form.

Total area 181 . 14¼

145 . 0 Wasla 13th, for dry crop soil, to be entered according to form.

Area 145

419 . 5¾

Details.

8 . 13½ Deduct unculturable portions:—

3 . 10 In garden land

1 . 9 Wasla 1st, a well, the length and

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breadth to be entered according to form.

Area 1 . 9

2 . 1 Wasla 2nd, a house, the length and breadth to be entered according to form.

Area 2 . 1

3 . 10

2 . 6 In rice land—

2 . 6 Wasla 1st, a pathway, the length and breadth to be written as usual.

Area 2 . 6

2 . 6

2 . 13½ In dry crop soil—

2 . 13½ Wasla 1st, a nalla, the length and breadth to be written as usual.

Area 2 . 13½

2 . 13½

8 . 13½ Total.

410 · 8¼ Remains culturable.

419 · 5¾

Total acres.	Deduct unculturable.	Remaining culturable.
10 · 19· 5¾	0 · 8' 13½	10· 10· 8¼

Abstract.

Garden land ...	2 · 12 · 7½	... 0 · 3 · 10	... 2 · 8 · 13½
Rice land ...	4 · 21 · 14¼	... 0 · 2 · 6	... 4 · 19 · 8¼
Dry crop land...	3 · 25 · 0	... 0 · 2 · 13½	... 3 · 22 · 2½

The boundary marks of this "Number" are shown in the following Sketch, and those not yet ready are to be put up under the superintendence of Govinda *bin* Nursojee, Bandh Peon.

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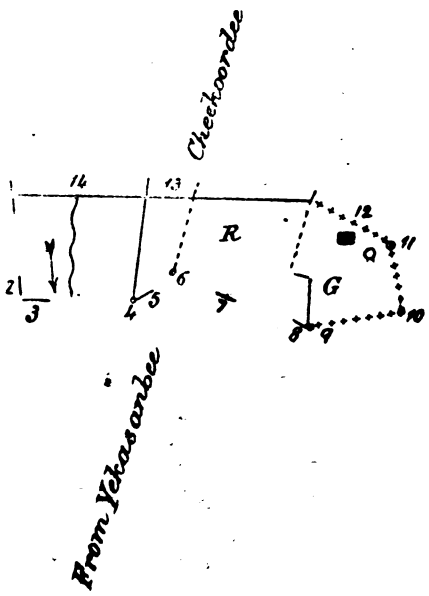
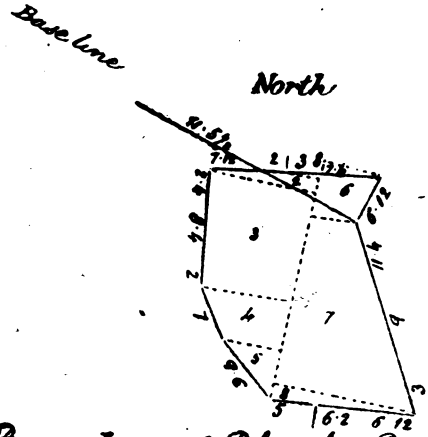
APPENDIX No. 3—*contd.*

West



The same kind of remarks to be written here as in the form of the foregoing "Number" 1.

"*Number*" 17.—*Revenue Survey* "*Number.*"



Boundary of Bhojeh Boundary of Gullu thgee.

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APPENDIX No. 3—*contd.*

Entries to be made here as in the foregoing "Number."

500 · 1½ Entries for eight Waslas to be made according to form.

Area 500 · 1½

500 · 1½

Details.

76 · 5½ Rice land in the "Number."

76 · 5½ Eleven Waslas for rice land to be entered according to form. Area 76 · 5½.

76 · 5½

423 · 12 Remaining dry crop land.

500 · 1½

Details.

52 · 15¾ Deduct unculturable portions in dry crop land :—

4 · 11 Wasla 1st, a footpath, length and breadth to be written as usual.

Area 4 · 11

48 · 4¾ Wasla 2nd, a tank, lengths and breadths to be written as usual.

Area 68 · 12½

20 · 7¾ Deduct land outside the tank, included in measurement :—

20 · 7¾ from Wasla 1st to 5th, to be entered as usual.

Area 20 · 7¾

20 · 7¾

48 · 4¾ Remaining area of tank.

68 · 12½

52 · 15¾

447 · 1¾ Remaining rice and dry crop included.

500 · 1½ Total area.

Total acres.	Deduct unculturable.	Remaining culturable.
12 · 20 · 1½	1 · 12 15 ¾	11 · 7 · 1¾

Abstract

Rice land	1 · 36 · 5½	0	1 · 36 · 5½
Dry crop land	10 · 23 · 12	1 · 12 · 15¾	9 · 10 · 12¼

The boundary marks of this "Number" are shown in the following Sketch, and those not yet ready are to be put up under the superintendence of Govinda *bin* Nursoojee, Bandh Peon.

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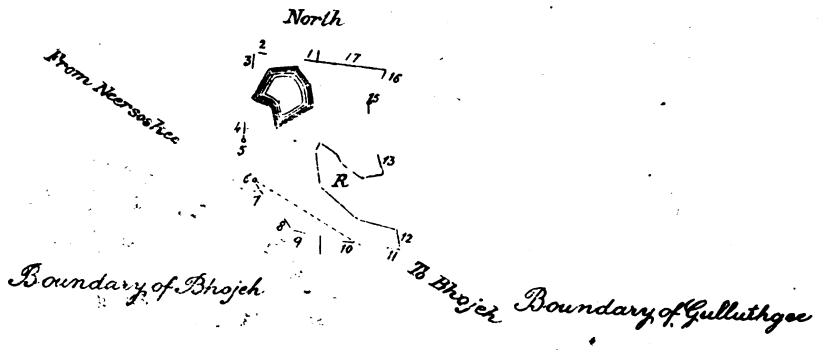
APPENDIX No. 3—*concld.*



Remarks to be written here as in the form of the foregoing "Number" 1.

CHAPTER VII.

VILLAGE MAPS.

1. The Map of the Village should be plotted according to the following Rules, as the measurements proceed. The Numbers measured each day are to be plotted the same day, and are on no account to be allowed to lie over till the next.

2. The base-line laid down according to Chapter IV should first be drawn on the sheet intended for the map, and the Numbers should then be plotted on it in the order in which they are measured; and the Numbers through which the base-line does not pass must be carefully laid down on those previously plotted, so as to ensure accuracy. This plan should be carried out until the Village measurements are finished, and the Map is completed.

3. When the measurements are completed and all the Numbers plotted on the Map, the latter should be cut square so as to make the four sides coincide with the cardinal points, and a margin, consisting of a thick and thin line, should then be drawn parallel to the edges of the sheet.

4. The upper side of the Map should always be towards the North which should also be shown by an arrow pointing to it. The name of the Village should be written below the arrow and below it, again, a scale of ninety chains, according to the form appended to this chapter, should be drawn.

5. In inking the Map, the base-line should be drawn in red, and the rest of the Map in black ink. The lines of boundary should be neatly and clearly drawn, and the roads and nallas should be shown in precisely the same manner as they are in the sketches of the fair field book, with the exception that such

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of the roads as form boundaries of Numbers, instead of being represented by dotted lines, as in the field book, should be shown by continuous lines.

6. The figures denoting the Numbers, the name and site of the Village, the heading of the scale, and all other lines of writing on the Map, whenever practicable, should be written from West to East; but when this is not practicable, they should be written from South to North.

7. Pencil lines should always be ruled for whatever is to be written on the Map, and inasmuch as by writing on single lines the letters would be of unequal sizes, double pencil lines should always be ruled for each line of writing. The figures denoting the Numbers should be written about the centre of each. The Map may either be inked as the plotting proceeds, or when the measurement and plotting of all the Numbers are completed.

8. The names of the boundaries of Villages and of rivers should be written along them according to their contour and these, therefore, will not always admit of being written exactly from West to East or from South to North; but still the general direction of the writing should not deviate more from the rule than can be avoided. In making such entries, the space along which each name is to be written should be divided into as many equal parts as the name has letters, and a letter written in the centre of each division.

9. The figures denoting the Number and the letters of the writing inside the site of the Village and of the names of roads and rivers should be equal, and rather small sized, while the letters of the name of the Village and the names of boundaries should be somewhat larger sized.

10. An arrow pointing down the stream should be drawn in rivers and large nallas to show the direction in which they flow.

11. Temples, trees, etc., should always be shown on the map with their tops exactly towards the north, according to the examples given in Appendix No. 1 to Chapter VI., and precisely of the same size as those examples.

12. During the rains, the fair copy of the Map is to be drawn from the rough by pricking off the corners and bends of the numbers with a fine pricker. The lines of boundary should then be drawn very neatly and the positions of houses, temples and trees fixed by the intersection of distances taken from the rough Map. In short, with the exception of the base-line, everything on the rough map should be drawn with the greatest accuracy on the fair, and care should be taken in pricking that the holes made with the pricker are not made so large as to be visible without close inspection.

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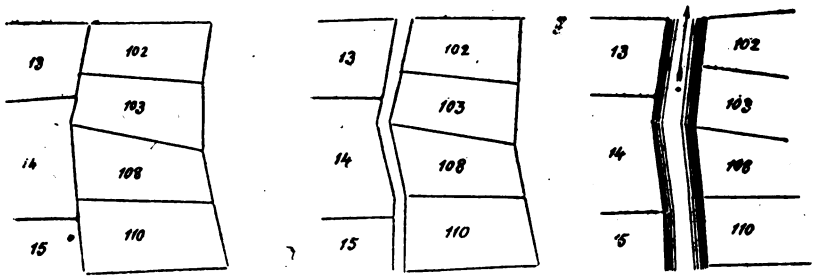
13. The fair copy of the map should not be larger than four feet by two and therefore if the lands of a village are too extensive to admit of the whole map being drawn on one sheet of this size, two or more sheets should be used. In this case, beyond the outside numbers of each sheet, portions of the boundary lines of adjoining Numbers belonging to another sheet should be drawn and the figures denoting such numbers should be written within these lines, so that in case one sheet is taken into the fields, it may at once be seen what numbers belonging to other sheets adjoin. Should a road or nalla intervene between such adjoining numbers, still this Rule is to hold good; and the following examples are given in illustration of it :—



14. The series of the numbers, according to the order of measurement, should not be entered in the fair copy of the map, but only the Survey series, which should be arranged in the manner shown in the following Rules.

15. When the map is on one sheet, the first number should be near the village, the second should adjoin the first, the third the second, and so on to the last, without any interval occurring between any number and the next following in the order of the series. The last Number, also, when practicable, should be near the Village.

16. When the map is on more than one sheet, the site of the village should be on the first sheet, and the first number should be near it; and if it be possible to have any of the numbers of the second sheet near the village, one of them should be selected for the first of it; and the series of the first sheet be so arranged as to bring the last number of it near the first number of the second sheet, so as to enable a person to pass immediately from the last number of the first sheet into the first number of the second sheet.

17. The first number of the second sheet should in every case adjoin the last number of the first sheet; and the last number of the second sheet should, if possible, be near the village.

18. When practicable, the first and last numbers of each sheet should, as directed above, be near the village; but when this cannot be done, the first number of the first sheet

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should be near the Village, and the last wherever it may be convenient to have it so. In this case, in arranging the series of the second sheet, the first number should adjoin the last of the first sheet, in order that a person may pass immediately from the last number of the first sheet into the first of the second.

19. When none of the Numbers of a second or subsequent sheet are near the village, it is not necessary to have the last number of the preceding sheet near the village. In this case the series should be so arranged that the last Number of the preceding sheet should adjoin the first number of the next, in order that a person may pass from the last number of one sheet into the first number of the next.

20. The series of Survey numbers should be taken consecutively through all the sheets, from the first number of the first sheet to the last Number of the last sheet; that is to say, if the last number of a sheet is No. 150, the first number of the next sheet should be No. 151.

21. The consecutive order of the series in some villages could only be secured by dividing a number into two Numbers. In such cases, however, the order of the series should be sacrificed rather than divide the number; such interruptions in the series must not, however, be made unnecessarily.

22. In order that the foregoing Rules may be properly understood, a form, according to which the map should always be drawn, is appended to this Chapter.

23. *Copies of village maps.*—Two copies of all village maps are made by Measuring Establishments for purposes of original detail measurement.

(1) The "Kacha" map, *i.e.*, the original map made in the field by the measurer.

(2) The "Nakal" map made during the monsoon for the use of the Classers, and afterwards for "Pot pahani."

24. *Measurer to sign on the back.*—The measurer who prepares the map of a village, whether "Kacha" or "Nakal" should sign it on the back.

25. *Maps of kavals, etc., to be on ½ or ¼ scale.*—Maps of extensive kavals, forests, etc., should be plotted on half the usual scale, or when very extensive on ¼th of the usual scale at the discretion of the Assistant. (*Vide* Rule 33.)

26. *Small Rice and Garden Numbers to be plotted on double scale.*—Very small Rice and Garden numbers, difficult to show in the village maps with any degree of accuracy, should be plotted on double scale and separately shown in the margin. They should also be shown in their proper places in the body of the map.

27. *Irrigation channels*—Channels in charge of Irrigation Department should be shown on the village maps by a blue

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stripe of the actual width of the channel itself. The 10 foot strip of land which is reserved on each side of the channel should not be coloured.

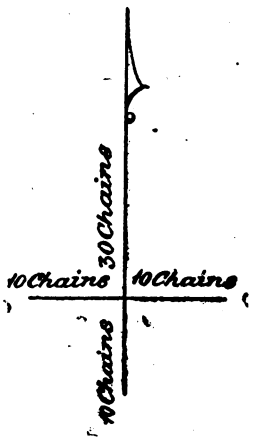
28. *Sluices of tanks to be shown on maps.*—All the main water courses (Raja kalves) flowing from tanks should be accurately shown on village maps and the sluices from which they flow should be shown thus —

29. *Half a chain to be the breadth of tank bunds.*—In all village maps, the breadth of a tank bund should be half a chain.

30. *How Railway lines are to be shown.*—Railway lines should be shown on maps in the prescribed form ═══ the outer lines representing the railway boundaries, the central line representing the railway itself, which should be half a chain in thickness.

31. *Hill sketches on the vertical method.*—Only the measurers who correctly understand how to execute hill sketches on the vertical method may be permitted to do so, but the ordinary men should do it on the horizontal system alone.

32. *North point.*—The following symbol should be used to indicate the North point on village maps.



33. *How Amrut Mahal kavals are to be plotted.*—All Amrut Mahal kavals should be plotted on half the usual scale, and a remark to the effect that they are so plotted should be written below the scale, which should be drawn full size. Two

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Nakal maps or fair copies of the kacha map, should be prepared of all Amrut Mahal kavals.

34. *Kacha map to be complete in all particulars.*—The kacha map should be complete in all particulars ; all boundary marks should be shown and the "Survey" numbers entered in red ink in it.

35. *Number "Sez" to be shown by measurers in pencil*—Measurers should note the number "sez" in Nakal maps in pencil only, leaving the inking to be done by the Classers after *akar tapasani.*

36. *Boundaries of villages to be compared while in field.*—The boundaries of all villages should be compared whilst the measurers are in the Field and not left over until the monsoon, so that any discrepancies that may be found to exist may be enquired into and corrected at once.

37. *Nakal maps not necessary in the case of Inam villages, etc.*—Nakal maps need not be prepared in the case of Inam villages and State Forests measured on the block system.

Suds, however, have to be prepared in the case of all the villages whether measured on the block system or in detail.

38. *Classers are to use the nakal maps in the field.*—While conducting field operations the classers are furnished both with Nakal and Kacha maps; but they should do all their field work with the former, using the latter for reference only. Any correction which they may find necessary to make, such as that of measurement, lines of drainage, numbering, etc., should, while in field, be done on the Nakal map only, a remark being entered in the margin of map to show where the alteration has been made; from this the Kacha map can be corrected in the monsoon.

Nakal maps of Inam villages merely traversed and of forests, are not required.

39. *Alteration of "sez" on maps.*—Should the numbering of fields on a map have been altered, a remark should be put in the margin to show which "Sez" is the correct one.

40. *How "sez" should be corrected.*—The "Sez" of rough and Nakal maps should not be scored out or erased, but a ring should be drawn round the original figures, and the new "Sez" should be written below in black ink.

41. *Attestation of maps.*—Each copy of map is after examination, signed by the Measuring Assistant in the left hand lower corner, and a remark entered below signature showing which copy of map it is, and date of preparation.

42. *Hill sketching to be examined.*—Assistants in charge of Measuring Establishments should examine the hill sketching

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in maps, and see that the hills are correctly shown from their own knowledge of the country and enter remarks accordingly both in their test plot and on the margin of the village map. Classing Assistants should make a similar examination of maps, and enter remarks on the margin of the maps.

43. *Assistants to check the boundaries of 5 or 6 adjoining villages.*—To test the accuracy of village boundaries, Measuring Assistants should select 5 or 6 adjoining villages where the hills are most difficult of measurement and extensive, and compile them themselves and thus see that the boundaries and hill sketching are correct.

44. *The drawing on maps not to be obliterated by signatures or other writing.*—The signature of the Survey Officer or remarks, if any, should be affixed in some blank space, so that the drawing or any other writing on the map might not be defaced.

45. *Village boundaries, etc., to be accurately shown.*—Assistants in charge of measuring Establishments should take particular care to see that the village boundaries, drainage, north point, roads and hills are accurately shown on village maps.

46. *Every Nakal map to be compared field by field.*—Every copy of the map should be carefully compared, field by field, with the original and signed by the Assistant in the right or left hand corner, the names of the karkuns who help in the testing work being recorded for future reference.

47. *North point to be transferred from the Test plot sheet.*—The north point should be correctly fixed on the test plot sheet and then transferred to the Kacha map with the initials of the Assistant Superintendent. As a rule, the North longitude should, if possible, be parallel with one of the sides of the map.

48. *No alterations allowed after settlement without Superintendent's sanction.*—No alteration of any sort should be made in the map of any village of which the settlement has taken place, without the sanction of the Superintendent.

49. *Kacha maps not to be sent for without sanction.*—Kacha maps should not be sent for from the Record office without the sanction of the Superintendent.

50. *Kacha maps to be preserved with care.*—As Pakka maps are discontinued, particular care should be taken to preserve the Kacha maps in tact. They should always be kept in tin cases and never folded and mixed up with other papers.

51. *Kacha map not to be sent out of office.*—Under no circumstances can the original or kacha map be sent out of the office for any purpose whatever.

52. *How Taluk maps should be compiled.*—Assistants incharge of Measuring Establishments should compile Taluk maps during the monsoon, and in compiling them, the following rules should be observed.

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1. No stream need be shown which does not form the boundary of a survey number.
2. The conformation of the hills should be spread over the extent of the paper corresponding to the area actually occupied by the hills.
3. The course of large Irrigation channels should be shown by a single line.
4. Dry forest and Kan should be shown by distinct symbols.
5. The position of all Trigonometrical Stations should be accurately shown.
6. Made roads should be shown by double line.
7. Important country tracks in the *maidan* Taluks or important bullock passes in the *malnad* should be shown, the former by a double dotted line, the latter by a single dotted line.
8. All tanks, however small, must be shown, the bund being represented by a good thick line.
9. Hamlets should be noted by a single circle O.
10. The position of Travellers' Bungalows should always be shown.

NOTE.—The Assistant should himself examine the Taluk map carefully getting up a certain percentage of the village maps and comparing these with the reduced drawings in the Taluk map. He should note carefully whether all tanks are entered, and whether the bunds are shown with thick black line. He should see that the drainage of country as shown by nallas, etc., is carried on from one village to another, and does not end abruptly on the boundary of a village, and also that hills and tanks common to two adjoining villages correspond where the outlines join.

53. *Kans, etc., to be shown by conventional signs.*—In all *malnad* taluks, kans, dry jungle and coffee should be shown on the Taluk map by certain conventional signs.

54. *Classing officers to revise Taluk maps.*—The Taluk maps prepared by the Measuring Assistants should be given to the Classing Officers who should freely mark off any improvements that suggest themselves as regards Topography.

55. *Dehjada to accompany the Taluk maps.*—In forwarding the Taluk map, a Dehjada should accompany it, showing the names of all villages entered in the map and an explanatory statement showing discrepancies between this and the original Dehjada with cause of discrepancy.

56. *Road traces necessary for compilation of Taluk maps.*—In some parts of the country, traces of the high roads are necessary for the purpose of correctly plotting the Taluk maps. On the measurement of a taluk approaching completion, report

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should be made as to what roads exist and orders will be given as to whether road traces are required or not.

57. *Scale of Taluk maps.*—The Taluk maps should be constructed on the scale of one inch to the mile.

58. *Hints respecting the preparation of maps, etc., intended for printing* :—

(1) All work to be photozincographed should be done in *black ink* on *white paper.*

(2) All lines, etc., should be, not only black, but firm, and distinctly drawn.

(3) Should the paper be of rather a yellow or brown tone, it is all the more necessary that the ink work should be strong throughout.

(4) Though all lines and strokes should be as sharp as possible, it is not advisable that *any* should be excessively fine and delicate; but as a rule the finer they are, the sharper and blacker they need to be.

(5) Attention should be paid to the 'upstrokes' of all printing and writing; they should be clean and firm, and not too delicate.

(6) It is better that all the work should be rather strong, perhaps heavy throughout, than that there should be fine, delicate, weak lines mixed up with coarse ones.

(7) Any colour other than black is as a rule, inadmisible. The only exceptions are, (i) in the case of light blue or grey; any amount of which does not interfere with the rest of the work in black, as it comes out white in the photographs, and (ii) in the case of warm red or dark yellow, lines and letters in which are harmless, provided that there is at the same time no objection to such appearing on the printed copies in black, instead of red or yellow.

(8) A coloured map or plan is therefore to be avoided if there is a wash of any colour (except *light* blue) over any of the black lines or letters, it cannot be satisfactorily photozincographed.

(9) Should it be indispensable that the copies of any work should be coloured, it is advisable that the coloured lines or parts should be given on a separate sketch or tracing corresponding with the main portion of the work, all of which should be in black ink, as detailed in paras 1 to 6.

(10) One great advantage of photozincography is, that maps and plans can be reduced in size quickly and conveniently by the process: and when the copies are to be attached to a report, it is obvious that they should be as small as circumstances will permit.

(11) Most maps will reduce to half or two-thirds the original scale, and at the same time leave every thing clear and legible, as long as the work is done firmly as indicated above, and as long as the printing is not *very* small on the original.

Reduction in size is followed by a reduction in expense. Work intended for reduction, should be done boldly throughout in proportion to the desired amount of reduction.

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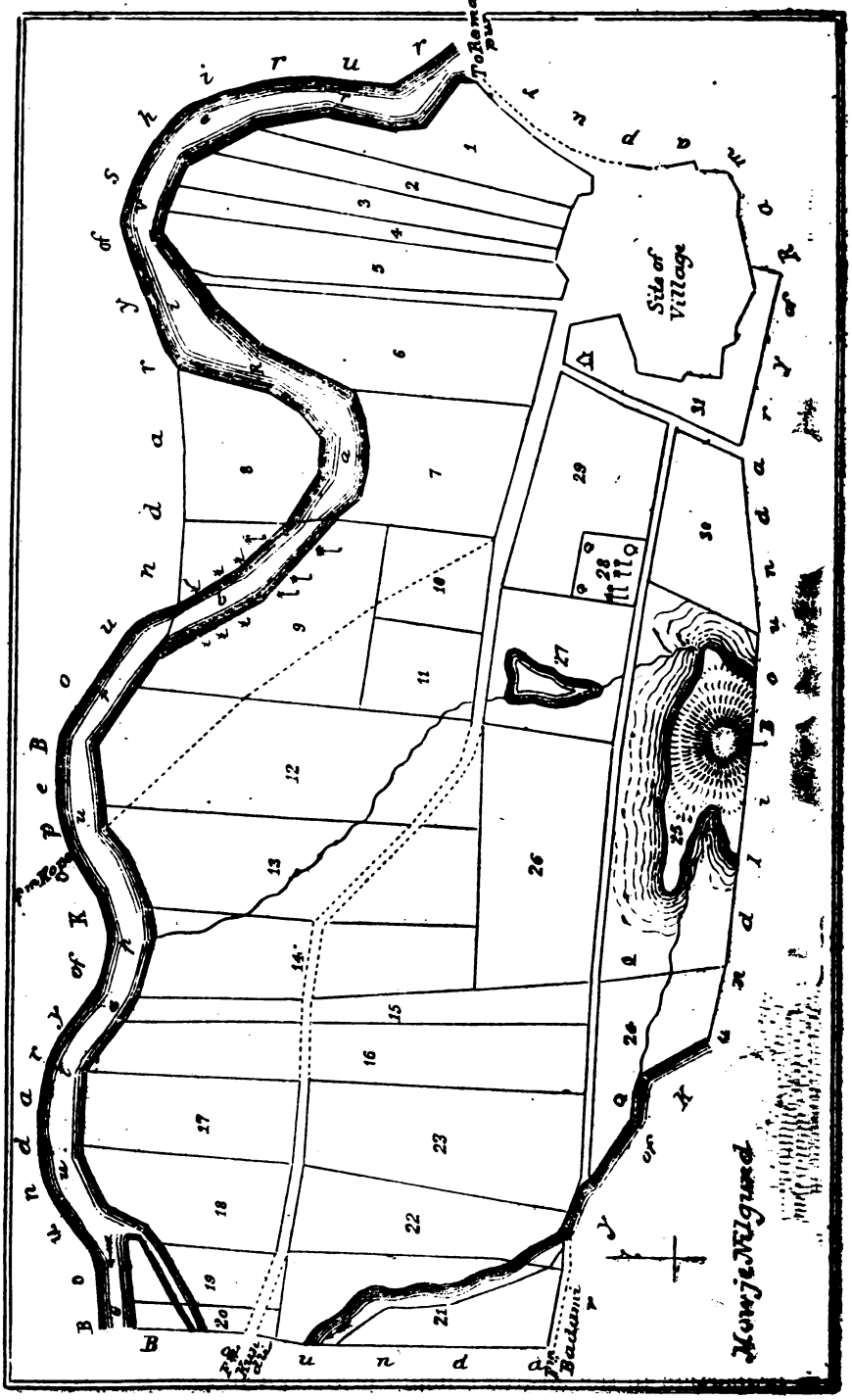
Form referred to in rule 4 of Chapter VII


Sketch of Boundary of Kunjigund
To Rama pur
Site of Village
Kunjigund
Boundary
Boundary
Boundary

CHAPTER VIII.

Field Demarcation.

1. *Legal Provision.*—Under Section 130 of the Mysore Land Revenue Code, a survey officer, authorized by the Superintendent of Survey, may cause to be constructed or repaired boundary marks of villages or survey numbers whether cultivated or uncultivated and assess all charges incurred thereby, on the holders or others having an interest therein.

Such officer may require landholders to construct or repair their boundary marks by a notification, which shall be posted in the *Chavadi* or other public place in the village to which the lands under survey belong, directing the holders of survey numbers to construct or repair, within a specified time, the boundary marks of their respective survey numbers, and on their failure to comply with the requisition so made, the survey officer shall get them constructed or repaired by means of paid labour and assess all charges incurred thereby as hereinbefore provided.

A general notification, issued in the manner aforesaid, shall be held to be good and sufficient notice to each and every person having any interest in any survey numbers within the limits of the lands to which the survey extends.

2. *Nature and size of boundary marks.*—The prescribed size, material and description of boundary marks are as follows:—

The boundary marks shall be of two kinds, viz., earthen mounds and stones, and their dimensions shall be as follows :—

Earthen Mound.

Length.	Breadth at bottom.	Breadth at top.	Height.
8 cubits.	4 cubits.	¾ cubit.	2¼ cubits.

Stone.—From 1½ to 2 cubits in length of which one half should be buried in the ground.

Dressed stones 2 feet in length, and 9 inches square, are allowed at the corners of wet and garden fields only, in lieu of mounds of earth.

Demarcation of culturable numbers.

3. *Two earthen mounds forming an angle to be raised at each of the four corners of a survey number.*—Two earthen mounds, forming an angle, (but open at the angular point), should be raised at each of the four corners of each "Number" and a small stone or other mark, daubed with white-wash, should

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be placed at the angular point, so that the exact point from or to which measurement has been taken may be known to a person testing the "Number". This corner stone or mark is not to be considered as one of the regular boundary marks, and therefore should not be numbered in the sketch of boundary marks in the field book.

4. *When should intermediate mounds be raised between corners.* —When the length of boundary between the corners of a "Number" is less than 15 chains, no mound should be raised in the interval; but in case there be bends, a stone should be fixed at each bend.

When the line of boundary between the corners of a "Number" is more than 25, but does not exceed 50, chains in length, one mound should be raised midway between corners, and stones fixed at all intermediate bends. It is not necessary, however, to place the intermediate mound exactly half way between the corners: when measuring the line of boundary, half the distance should be guessed by the measurer and marks made there for the erection of the mound.

When the line of boundary between corners of a "Number" is more than 50 chains in length, a mound should be raised at every 20 chains, and stones fixed at all intermediate bends.

5. *When stones may be substituted for bandhs or mounds.*— Stones of the standard size may be substituted for bandhs under the following circumstances, but the measurers should prepare and submit before test, a statement showing the places where stones were substituted for bandhs, so that the testing officer may satisfy himself that the action of the measurer is correct. Assistants will be held personally responsible if they indiscriminately sanction the substitution of stones for bandhs contrary to rules.

(i) When an old well-defined continuous embankment or hedge forms the boundary of a survey number, three stones of the standard size should be fixed at each corner and one stone at each bend.

(ii) When a river or large nala is the boundary of a "Number," instead of two mounds at each corner of the river or nala, a stone of the standard size, should be fixed at each corner, and one mound raised near the stone, to show the direction of the line of boundary which branches off from it, and as the bank of the river or nala is to be considered the line of boundary, no mounds should de raised between the corners on that side. In order, however, that when the "Number" is being tested no doubt may arise as to the bends along the bank to which the original measurements were taken, they should be indicated by small marks, daubed with white-wash.

(iii) When a made road is the boundary of a "Number," only one mound should be raised at the corners, indicating the

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direction in which the side of number branches off the road side, and standard sized stones fixed at the bends along it; but mounds should not be raised between these corners, as the stones at the bends will be sufficient to show the ryot what space he is to leave between the road and the boundary of his "Number."

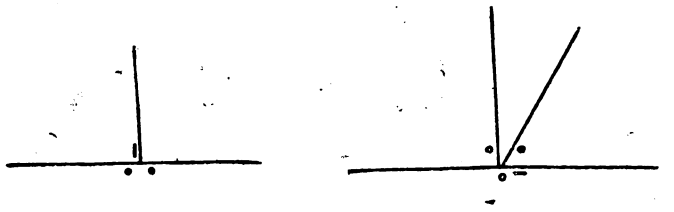
(iv) When, in accordance with the above rules, the place for a mound happens to fall along or across a water course, where it would be liable to be washed away, the water course should be avoided, and the mound raised on the line of boundary out of reach of floods; but if the water-course cannot be avoided, and the mound to be raised is not a corner one, two stones of the standard size should be fixed instead, at a distance apart equal to the length of the mound. When, however, the mound happens to be a corner one, one stone of the standard size should be fixed at the corner of the "Number", and another in the direction of the line of boundary, at a distance of eight annas from it. In the neighbourhood of villages, and in other places where mounds are likely to be trodden down by cattle, a stone of the standard size should be fixed at the corner of "Numbers" in addition to the earthen mounds.

(v) In rice and garden survey numbers of any extent, one mound only is necessary at each corner, the remaining demarcation being done by stones only.

Note.—(The corner stones in Rice and Garden lands should be of the standard size. The measurers should, as soon as the *pakka pahani* is finished send up lists of such stones in the prescribed form so that a certain percentage might be tested by the Assistant Superintendent.)

(vi) When dry survey numbers are of one acre or less in extent, only one mound is necessary at each corner as in the case of rice and garden lands.

(vii) When dry survey numbers of one acre or less in extent and rice and garden numbers adjoin, one bandh only is to be erected, the remaining demarcation being made with stones as shown below:—



(viii) In the case of rice and garden survey numbers if one khatedar so elects, even this one bandh may be dispensed with and substituted by a dressed stone, two feet in length and nine inches square, with a smooth flat top, fixed at the corner.

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(ix) In the case of survey numbers constituted for valuation survey of inam villages, one of the mounds at each corner may be replaced by a stone of the standard size.

(x) When coffee holdings have been already demarcated by ditches, three stones are to be placed at the corners instead of mounds.

6. *Bandhs and stones in bagayet numbers.*—Assistant Superintendents should see that no annoyance or inconvenience is caused by measurers to ryots by fixing boundary marks in garden survey numbers in places where they will interfere with cultivation or with irrigation channels or water-courses.

7. *Demarcation of irrigation channels.*—When irrigation channels on each side of which 10 feet of margin has under the rules to be left waste, run through a survey number, two stones have to be fixed where the channel crosses the boundary of the number, for showing the width of the strip which has been deducted as kharab.

8. *Demarcation of large kharab numbers.*—The foregoing rules regarding boundary marks are applicable to culturable numbers only, not to Parampoke (unculturable). The boundary lines of these, when they are not also the boundaries of culturable "Numbers," but pass over hills or through jungle, should be shown by two mounds, with an intermediate stone of the standard size fixed at each corner or large bend in the line of boundary. Stones are not to be placed at the small bends of such lines of boundary, except in places where the bends cannot be easily recognized. And when a narrow ridge of hill, or a large nala, is the boundary of a Parampoke Number, there is no necessity for fixing stones, or raising mounds at any of the bends along it: all that is necessary is to fix a stone at each point where the boundary line diverges from the ridge or nala, and to raise a mound near the stone, to show the direction of this line.

9. *Erection of bandhs where three villages meet.*—When the boundaries of three villages meet, the bandhs should all be joined together at the point of junction.

10. *Publication and attestation of bandh notice.*—Each measurer or classer will be given two copies of notice in form No. 36 which will be his credential for commencing survey operations in the village. After assembling the villagers by beat of *tom-tom*, the measurer should read the notice to the raiyats explaining the object and scope of the survey operations. The notices should be signed by the village officials and raiyats in token of their having read or heard the provisions contained therein. One copy of the notice should be affixed in the village *chavadi* or temple or some other prominent place in the locality and the second should form part of the village *ahaval* report to be submitted to the Assistant Superintendent by the measurer.

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11. *Size of boundary marks to be made known to raiyats.*—The Assistant Superintendent should satisfy himself that the raiyats thoroughly understand the size and rates of payment, fixed for boundary marks.

12. *Procedure to be adopted for the construction of boundary marks.*—Before the measurement of a village is commenced, the villagers should be asked whether they would themselves construct the boundary marks or desire that the work should be done by Government agency. In either case, a *muchalika* should be taken from the raiyats. If after executing the *muchalika*, the raiyats fail to put up the boundary marks, the Assistant Superintendent may make the best arrangements in his power to cause the construction or repair of boundary marks.

When arrangements have to be made to put up boundary marks with paid labour, the raiyats should be served with a notice in writing as prescribed in Section 130 of the Land Revenue Code and also informed that any marks put up by them subsequently will be at their own risk.

In villages where bonndary marks are erected by paid labour, particular care should be taken to see that the marks are of the standard size and that they are fixed according to rules. The field books should be compared with bandh books in the field.

A portion of the wages should always be held in deposit, pending the Bandh Pahani test by the Assistant Superintendent.

Patriks for stones shall never be given before the Bandh Pahani of the numbers in which the stones are fixed, is completed.

The measurers should on no account interfere with the distribution of money received on Bandh Patriks.

13. *Erection of boundary marks partly by villagers and partly by paid labour prohibited.*—Except under extraordinary circumstances in which case sanction must be obtained, boundary marks in a village should not be put up partly by villagers and partly by paid agency.

There is no objection to the villagers putting up all the bandhs in the village leaving, all the stones to be fixed by paid labour or *vice versa*.

14. *Procedure when villagers put up their own boundary marks.*—When villagers put up their own bandhs and stones, they shall be charged for bandh peon's pay, which will be recovered through the Amildar in the usual manner. If however the villagers are willing to pay the amount and thus save the preparation of any boundary mark accounts against the village, they may be permitted to pay in the amounts to the Assistant within one month of notice, or such other time as the Assistant may appoint. The money must be paid to the Assistant in person and not to the Amildar or any other official. A receipt will

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be granted by the Assistant to the villagers to the effect that nothing is due from the village on account of boundary marks and the Assistant is responsible for the correctness of the transaction.

15. *Boundary mark charge.*—The term boundary mark charge includes:—

(1) Cost of hired labour engaged to serve as flag holders and for other purposes incidental to survey operations under Section 108 of the Land Revenue Code.

(ii) Cost of putting up mounds and stones with paid labour under Section 130 of the Land Revenue Code.

(iii) Bandh peon's pay.

(iv) Boundary mark fund or Boundary mark contingency levied at three pies for each survey number, when the boundary marks are constructed by paid agency.

16. *Debit of boundary mark charges against villagers.*—When villagers put up the bandhs and stones, the bandh peons pay only will be debited against the village. In cases where the villagers put up their own bandhs and the Assistant Superintendent provides the stones and in cases when bandhs and stones are paid for by the officer in charge, boundary mark accounts will be made out against the village for the cost incurred including the pay of the bandh peon and the boundary mark contingency.

17. *Security to be taken from contractors.*—Substantial security should be taken from contractors unconnected with the villages concerned for the due performance of the contract.

18. *Relation of Karkoons, etc., not to be employed as contractors.*—When entering into any contract for the erection of boundary marks, Assistant Superintendents should satisfy themselves that the contractor is in no way related to the karkoons, measurers or any one connected with the Survey Department. The contract bond should invariably specify the rate charged for each stone, mound and labourer, whether male or female and it should be sent up for the sanction of the Deputy Superintendent.

19. *Payment of boundary mark charges.*—As a rule, Assistant Superintendents in charge of establishments should themselves pay to the contractor the cost of putting up boundary marks. If any payment is withheld in respect of marks not properly put up at the date of first inspection or for any other reason, the balance must not be allowed to remain for any length of time. Every mark put up must be paid for before the close of the field season whether the village is finished or not.

20. *Boundary mark accounts*:—When boundary mark charges are incurred by the Assistant Superintendent, the following statements and accounts, as the case may be, should be prepared in the field by the measurer and in the office of the Assistant Superintendent.

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A book, to exhibit the expenses incurred in erecting the boundary marks, should be kept by the measurers, in form No. 3 appended to this Chapter. Of the columns in this form, the 3rd, for "Side of 'number'," and the 5th for "Boundary marks", should be filled in by the measurer when he is working in the field as also should column 8th, for "Date of Inspection," on the day the inspection is made. The other columns should be filled in, according to the following directions, after returning from work.

The "Numbers" to the account of which each boundary-mark is to be charged should be entered in column 4, and the way to distinguish this "Number" will be seen by referring to a sketch of boundary marks, headed Form No. 2, appended to this Chapter.

When a road, the site of a village, or the boundary of another village, forms the boundary of a "Number," then the marks erected along that side all apply to the "Number" in question, and are to be placed to its account.

Of mounds raised along the common boundary of two "Numbers," the first and third should be placed to the account of the "Number" first measured, the second and fourth to that of the adjoining "Number"; and so on in rotation.

21. *Treatment of boundary marks in coffee numbers.*—Apportionment of boundary marks, bounding occupied coffee lands, should be made as in the case of cultivated lands but when such coffee survey numbers abut on kharab numbers, no charge will be debited against such coffee number for a share of the boundary marks raised for the kharab number.

22. Stones should be placed to the account of adjoining "Numbers," in the same manner as explained above for mounds; but the prices of stones and mounds, being different, are to be shown separately in the boundary book. To simplify this, a sketch, headed No. 2, which corresponds exactly with the entries in the form for the boundary mark book, is appended to this Chapter, and both of these forms should be carefully studied. Thus mound No. 6 of the sketch is written to the account of "Number" 1, and mound No. 7 to "Number" 4; then inasmuch as mound No. 6 is put to the account of "Number" 1, stone No. 8 and mound No. 9 are also written to that "Number." In short, the order of rotation for the mounds must be distinct from that for the stones.

23. When the boundary of a "Number" is also the boundary of a village, the boundary marks along it should not be divided between the "Number" under measurement and the adjoining village, but be all written to the account of the former; but in case a road, which required boundary marks on each side of it, should run along the boundary of two Government villages, the measurer of the village first measured should have

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marks erected on the side of the road next his village, and write them to the account of the "Numbers" adjoining the road. Having done so, he should report the circumstance of such a road running along the boundary of his village, to the Assistant Superintendent, in order that when the adjoining village is being given out for measurement, the latter may give directions to the measurer appointed to it to have marks erected on the other side of the road also, when the cost of them should be debited to the adjoining "Numbers"; but should the adjoining village be inam, or belong to a foreign State, the measurer of the Government village should have boundary marks erected on both sides of the road, and should enter them in his boundary book opposite those "Numbers" to which the road in question is the boundary, and debit the marks placed on the higher side of the road to the account of these "Numbers", and those on the further side to the adjoining inam or foreign village.

24. The numbers of the boundary marks to be entered in column 5 of the boundary mark book should correspond with those of the boundary sketch inserted in the fair field book; those marks only which are erected for each "Number" at the time of measurement should be entered against it, as the remaining marks, already entered for other "Numbers", although belonging to it also, should not be entered again; and in order to distinguish the figures for mounds and stones, a short line thus — should be drawn near the figures indicating mounds, and a small circle, thus o near those indicating stones; and, further, to distinguish the kind of earth of which each mound is composed, the initial letter of the word denoting its colour should be written near it.

25. The letters to denote the colour of the earth of which the mounds consist should not be written without reference to the labour of erecting them; for example,—

1st. When, in consequence of the nature of the soil admitting of large clods being dug up, the labour of raising the mound is comparatively small, the earth should be considered black, and the corresponding initial letter written.

2nd. When, in consequence of the clods dug up being small, the labour of raising the mound is greater than the former, the earth should be considered red, and the corresponding initial letter written.

3rd. Earth which is very hard, or which, from the stony nature of it, is more difficult to dig than either black or red, should be considered gravelly, and the corresponding initial letter written.

26. In column 6 the cost of each mark should be entered.

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27. When stones are purchased, the price of each should be entered in column 7.

28. After the boundary marks are erected, they should be inspected, and those which correspond to the dimensions laid down in Rule 3 should have the date of inspection entered opposite to them in column 8. Should any be found deficient in size, or be entirely wanting, they should be completed or erected, as the case may be, when a further inspection should be made, and the date on which they were found properly erected entered in the column for date of inspection. For example, in the form of boundary mark book, the marks numbered 5, 6, 7 of "Number" 1 were not ready at the time of the first inspection, on the 25th November, and after being made ready they were again inspected on the 9th December, which date is entered opposite the marks in question. The remark to be written in the field book after inspection should neither be dated nor signed till all the marks to which it refers are properly put up and inspected.

29. After having filled in the first seven columns of the boundary mark book, the "Numbers" entered in column 4 should again be entered in column 9; and the total number of mounds and stones erected for each "Number", and their cost, should be entered separately in columns 10 and 11. Lastly the total of the sums entered for mounds and stones in column 11 should be entered in column 12.

30. The columns of the boundary mark book in which entries are to be made after returning from work in the fields should be filled in as the "Numbers" are plotted on the Map, and not left till the measurements of the village are completed; and inasmuch as the boundary accounts in the Assistant Superintendent's Office have to be prepared from this book, the measurers should be careful to write it neatly and correctly; for should it happen that, in consequence of mistakes, or the entries not being made according to the above rules, the charges for boundary marks entered in the book fall short of the disbursement made by the Assistant, the excess of disbursements will be recovered from the pay of the measurer.

31. A statement, showing the tenure of each "Number" should be prepared from the village records as the measurements proceed, according to Form No. 4 appended to this Chapter. In this statement each "Number", according to the order of measurement, and its corresponding old "Number" or "Numbers" according to the records of the village, should be entered as the measurements proceed; and after these are completed, the statement should be compared with the village records, to see if any of the old "Number" have been left out. It should then be signed by the measurer and village shanbhog.

32. The labourers employed on the boundary marks should be paid weekly. To facilitate this, the Assistant Superintendent

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will fix a certain day in each week for inspecting their work, on which all the marks of the "Numbers" measured, which have been erected up to that day, should be inspected, and a bill for the money due on account of them, should be made out by the measurer in Form No. 5 appended to this Chapter and given to the head man who may be appointed by the body of labourers for presentation to the Assistant Superintendent for payment. The cost of the marks which are deficient in size, or wanting entirely in the "Numbers" inspected, should be deducted in the bill, and the rest charged for according to the rates entered for them in the boundary mark book. No delay should occur in sending this bill to the head man after the boundary marks are inspected.

33. After the boundary marks which were found deficient or wanting at the first inspection have been properly finished, and inspected again, and the remark in the field book relative to their inspection has been signed, a bill for their cost should be given to the head-men as before, in order that they may go and receive payment. The form of this bill, headed No. 6, is appended to this Chapter; but it must not on any account be given to the head-men before the marks in question are properly completed, and have been found so on inspection.

34. If stones have been purchased, a bill, according to Form No. 7 appended to this Chapter, should be given to the man from whom they were purchased, for presentation to the Assistant Superintendent for payment.

35. All the bills for the payment of the boundary marks of each village, prepared in any of the three forms mentioned above, should be numbered consecutively according to the order of the dates in which they are sent for payment to the Assistant, and irrespective of the particular form used for each.

36. Immediately on the completion of the boundary marks of a village and the records connected with them, the boundary mark book and the book showing the tenure of each "Number" should be forwarded to the Assistant Superintendent, who will direct the Karkoons in his office to prepare the boundary accounts from them.

When paying the amount of the bills brought by the labourers, the officer paying them should obtain the signatures of the labourers or their head-man to the remark written at the foot of the bills, stating that they have duly received payment.

37. A statement of the boundary expenses in full, showing the cost for each "Number", should be prepared according to Form No. 8 appended to this Chapter, from the boundary mark book and the statement showing the old and new "Numbers".

38. A statement according to Form No. 9 appended to this Chapter, showing from whom the boundary expenses are to be collected, should be drawn out from the statement of old and

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new "Numbers", and from the statement of the cost for each "Number," only the first five columns of this statement are to be filled and the total entered in the 4th column should agree with the total of the money to be collected, as entered in column 6 of Form No. 8. One copy of the statement is to be sent to the Superintendent with the accounts of boundary expenses, and another to the Amildar of the Taluk, in order that the latter may collect the sums due from the "Khatedars" of Government Numbers, and from "Inamdars". The Patel and Shanbhog of each village will, as soon as they have collected these sums, fill in columns 6, 7 and 8, sign the statement, and send it to the Amildar, who will forward it to the Superintendent with his monthly accounts.

39. As the head-men of the labourers are to receive payment weekly on bills drawn by the measurers, the measurers themselves are never on any account to be entrusted with advances for the payment of boundary marks. The money paid to the labourers should be debited in the Assistant's book of boundary accounts, under the head of "Advances on account of Boundary marks"; and in debiting each item, the name of the measurer by whom the bill is sent, the name of the village and taluk on account of which the sum is debited, the number of the bill, and the names of the head-men to whom the money is paid, should be entered; as also must the total of the items debited for each day; and all in the manner shown in Form No. 10, appended to this Chapter. In the monthly account, which the Assistant Superintendent will send to the Superintendent, the advances thus made should be shown in detail, according to the villages on account of which they are made, as portions of the amount of balance in hand.

40. After the statements for each village, are prepared, the total amount for boundary marks entered in column 6 of Form No. 8 should be credited in the Assistant's book of boundary expenses, to the head of "Unadjusted Advances", and then finally debited to the village on account of which the sum was advanced; the details of the amount on account of Government waste and cultivated land, inam land, and land belonging to alienated or inam villages, being also exhibited separately, as shown in Form No. 10 appended to this Chapter.

41. All boundary mark expenditure for which the detailed accounts may be prepared in any month is to be adjusted without delay in the Assistant Superintendent's book of boundary-mark expenses, and statements, according to Form No. 9 of the sums to be recovered from ryots and inamdars, are to be sent to the Amildar punctually on the 1st of the following month, to enable him to complete the collections before its close, and thus facilitate an early adjustment of the Superintendent's accounts. When the collections have been made according to Statement 9,

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the Amildar is not to send the money to the Assistant Superintendent, but is to add it to the Superintendent's cash balance in his charge, and to bring the amount to credit, on account of boundary marks, in the Superintendent's account book.

42. The following documents for each village of which the boundary mark accounts may be completed in any month are to be forwarded by the Assistant Superintendent, along with his monthly account to the Superintendent:—

1. Boundary mark book, according to Form No. 3.
2. Statement of new and old "Numbers", according to Form No. 4.
3. All the bills for money paid, according to Forms Nos. 5, 6 and 7.
4. Statement of expenses in full by "Numbers", according to Form No. 8.
5. One copy of the Statement of sums to be collected, according to Form No. 9.

43. As the Assistant Superintendent will have nothing further to do with the boundary expenses of finished villages, after the documents connected with them have been prepared and forwarded, to the Superintendent and the Amildar respectively, it is not necessary for him to keep copies of any of these documents, except that prepared according to Form No. 8, showing the total expenditure on account of the boundary marks. The documents to be sent to the Superintendent must be stitched together, and an index written on the cover, showing what papers are to be found within it.

44. When, in consequence of the absence of the labourers, or any other cause, the whole amount due on account of boundary marks has not been paid to them, the sum paid, and that remaining to be paid, should be shown at the bottom of the boundary mark book, according to Form No. 3, and the sum actually paid is alone to be debited in the Assistant's book of boundary expenses.

45. *Submission of bandh accounts.*—Bandh Accounts should be compiled and sent villagewar soon after the completion of survey operations; the submission of supplementary accounts in respect of a village is forbidden.

If the submission of accounts is delayed on account of non-payment to labourers or bandh peons owing to their absence, the accounts should be prepared by noting the debit against the Deputy Superintendent as if such sums had been paid by the Field Establishment concerned. The unpaid amounts will be held in 'Amanat', for six months and if unclaimed at the expiration of that period, the amount will be credited to the boundary mark fund from which future claims when substantiated may be paid. The adjustment of amounts held in 'Amanat' will be made in the Deputy Superintendent's Office.

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46. *Bandh accounts of amrut mahal and Palace kavals and Forests.*—Separate Vasul Patriks should be prepared and submitted for Amrut Mahal and Palace kavals and Forests as though they were ordinary villages.

47. *Bandh accounts of inam villages.*—In the case of valuation survey of inam villages, Vasul Patriks should be made out in the name of the inamdar on the total *beriz*. Details by numbers and the C Statement are unnecessary.

48. *Construction of banjar bandhs how paid for.*—Ryots constructing the boundary marks of *banjar* numbers are entitled to payment as follows:—

If the *banjar* bandhs exceed one third of those of cultivated numbers in *maidan* taluks and one tenth in the *malnad*, all the excess should be paid for at the rates sanctioned for the taluk concerned.

If the proportion of waste lands in any village is within five annas in a Rupee, the whole of the boundary mark charges should be borne by the cultivated numbers. If above five annas, the excess should be borne by Government.

49. *Adjustment of boundary mark charges between Government and inam villages.*—Boundary marks erected between two inam villages or between Government and inam villages should be charged in equal proportions between the villages concerned.

50. *Classers to remove superfluous boundary marks.*—Superfluous boundary marks not shown in the measurer's field book may be removed by the classer, if found unnecessary.

All cases of superfluous boundary marks found in the field should be entered in the *chuk yadi* so that the Assistant Superintendent may inspect them at test time.

51. *Boundary marks in inam villages subjected to valuation survey.*—In inam villages subjected to valuation survey and not for purposes of settlement, it is optional with the inamdar to retain the boundary marks. The marks on the boundaries of such villages should be maintained.

52. *Demarcation of irrigation channels.*—When irrigation channels, on each side of which 10 feet of margin has to be left waste, run through a survey number, two stones have to be fixed where the channel crosses the boundary of the number, for showing the width of the strip which has been deducted as kharab.

53. *District officers to arrange prompt erection of boundary marks.*—It is the duty of the district officers to arrange for the prompt erection of boundary marks in taluks where survey operations are in progress.

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FORMS REFERRED TO IN CHAPTER VIII.

FORM NO. 1.

Notice is hereby given to the inamdars or cultivators of inam land, and the raiyats or cultivators of Government land, of Mowjeh in the Taluk of the District, that the measurement of the lands of your village is about to be commenced by the Revenue Survey Department, and that boundary marks are to be made to each "Number," according to the said measurement. You are therefore hereby required to raise earthen mounds, and fix stones, along the boundary lines of your respective "Numbers," at places which the measurer will mark for that purpose, within two days after the said marks are made. In default of which, the same will be caused to be done by Government officers and the cost recovered from you, under the provisions of the Mysore Land Revenue Code, IV of 1888.

(Signed)

Assistant Superintendent, Revenue Survey.

Camp

Date.

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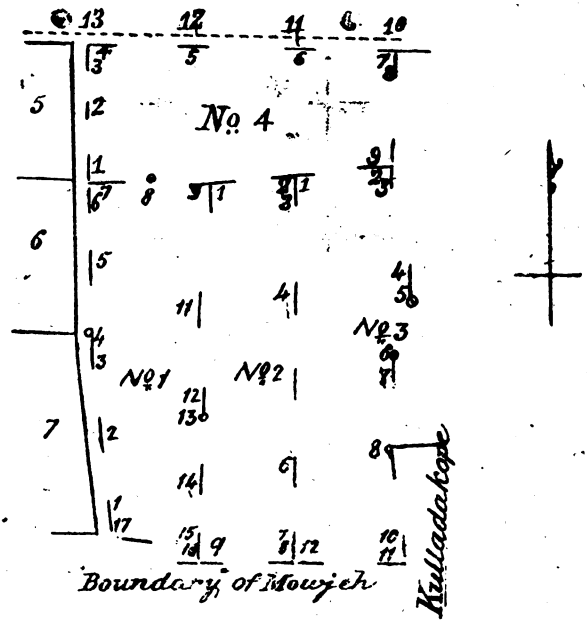
FORM No. 2.

Boundary of Mowjeh Taklee Inam Village.



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FORM NO. 3.

Boundary mark Book of Mowjeh.....Taluk in the .....District 1850.

Date of measurement	"Numbers" according to the order of measurement	Side of the "Number" on which the Mark is erected	Number of mounds and stones, showing the "Numbers" to which they belong, and their cost, etc.					Cost of boundary marks for each "Number" entered in Col. 4				Remarks
			"Number" to which the mark should be charged	Number and kind of mark	Cost of the mark	If stones are bought, their price	Date of inspection, and total	"Numbers" according to the order of measurement	Number of mounds and stones	Cost of mounds & stones to each "Number"	Total cost of mounds and stones	
1	2	3	4	5	6	7	8	9	10	11	12	13
15th November 1850.	1	W	1	1—R	0 2 0		25th Nov.	1	o 2 — 10	0 2 6 1 5 0	1 7 6	
		W	1	2—R	0 2 0		25th Nov.					
		W	1	3—R	0 2 0		25th Nov.	2	o 1 — 3	0 1 3 0 6 6	0 7 9	
		W	1	4 0	0 0 3	0 1 0	25th Nov.					
		W	1	5—R	0 2 0		9th Dec.	4	— 1	0 1 6	0 1 6	
		W	1	6—B	0 1 6		9th Dec.					
		N	4	7—B	0 1 6		9th Dec.					
		N	1	8 0	0 0 3	0 1 0	25th Nov.					
		N	1	9—B	0 1 6		25th Nov.					

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14th November 1850—contd.

	E	2	10—B	0 1 6		25th Nov.				
	E	1	11—E	0 2 0		25th Nov.				
	E	2	12—R	0 2 0		25th Nov.				
	E	2	13 o	0 0 3	0 1 0	25th Nov.				
	E	1	14—R	0 2 0		25th Nov.				
	E	2	15—G	0 3 0		25th Nov.				
	S	1	16—G	0 3 0		25th Nov.				
	S	1	17—G	0 3 0		25th Nov.				
		3	o 3 — 14	0 0 9 1 13 0	0 3 0	2 0 9	3	o 3 —14	0 3 9 1 13 0	2 0 9
	N	2	1—B	0 1 6		25th Nov.				
	N	4	2—B	0 1 6		25th Nov.	2	—6	0 11 6	0 11 6
	E	2	3—B	0 1 6		25th Nov.				
	E	3	4—B	0 1 6		25th Nov.	3	—2	0 3 6	0 3 6
2	E	2	5—B	0 1 6		25th Nov.				
	E	5	6—R	0 2 0		25th Nov.	4	—1	0 1 6	0 1 6
	E	2	7—R	0 2 0		25th Nov.				
	S	2	8—R	0 2 0		25th Nov.				
	S	2	9—G	0 3 0		25th Nov.				
		3	—9	1 0 6		1 0 6	3	—9	1 0 6	1 0 6

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FORM No. 3—*contd.*

Date of measurement	"Numbers" according to the order of measurement	Side of the "Number" on which the mark is erected	Number of mounds and stones, showing the "Numbers" to which they belong, and their cost, etc.					Cost of boundary marks for each "Number" entered in Col. 4				Remarks
			"Number" to which the mark should be charged	Number and kind of mark	Cost of the mark	If stones are bought, their price	Date of inspection, and total	"Number" according to the order of measurement	Number of mounds and stones	Cost of mounds and stones to each "Number"	Total cost of mounds and stones	
1	2	3	4	5	6	7	8	9	10	11	12	13
15th November 1850—*contd.*		N.	3	1—B	0 1 6		25th Nov.					
		N,	4	2—B	0 1 6		25th Nov.					
		E.	3	3—B	0 1 6		25th Nov.	3	° 3 — 8	0 3 9 0 14 6	1 2 3	
		E.	3	4—B	0 1 6		9th Dec.					
		E	3	5 °	0 0 3	0 1 0	25th Nov.	4	— 1	0 1 6	0 1 6	
		E.	3	6 °	0 0 3	0 1 0	25th Nov.					
		E.	3	7—R	0 2 0		25th Nov.					
		E	3	8 °	0 0 3	0 1 0	25th Nov.					
	3	E.	3	9—R	0 2 0		25th Nov.					
		E.	3	10—R	0 2 0		25th Nov.					

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15th Nov. 1850—*concld.*		S	3	11—R	0 2 0		25th Nov.					
		S	3	12—R	0 2 0		25th Nov.					
			2	° 3 —9	0 0 9 1 0 0	0 3 0	1 3 9	2	° 3 —9	0 3 9 1 0 0	1 3 9	
16th November 1850,	4	W	4	1—B	0 1 6		25th Nov.					
		W	4	2—B	0 1 6		25th Nov.	4	—9	0 13 6	0 13 6	
		W	4	3—B	0 1 6		25th Nov.					
		N	4	4—B	0 1 6		25th Nov.	Mowjeh Taklee.	—4	0 6 0	0 6 0	
		N	4	5—B	1 6		25th Nov.					
		N	4	6—B	0 1 6		25th Nov.					
		N	4	7—B	0 1 6		25th Nov.					
		E	4	8—B	0 1 6		25th Nov.					
		E	4	9—B	0 1 6		25th Nov.					
		N	Mowjeh Taklee	10—B	0 1 6		25th Nov.					
		N	Ditto	11—B	0 1 6		25th Nov.					
		N	Ditto	12—B	0 1 6		25th Nov.					
		N	Ditto	13—B	0 1 6		25th Nov.					

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FORM No. 3—*contd.*

Date of measurement	"Numbers" according to the order of measurement	Side of the "Number" on which the mark is erected	Number of mounds and stones, showing the "Numbers" to which they belong, and their cost, etc.					Cost of boundary marks for each "Number" entered in Col. 4				Remarks
			"Number" to which the mark should be charged	Number and kind of mark	Cost of the mark	If stones are bought, their price	Date of inspection, and total	"Numbers" according to the order of measurement	Number of mounds and stones	Cost of mounds and stones to each "Number"	Total cost of mounds and stones	
1	2	3	4	5	6	7	8	9	10	11	12	13
16th Nov. 1860			1	—13	1 3 6		1 3 6	1 Taklee.	—13	1 3 6	1 3 6	
Total	4		4	° 6	0 1 6	0 6 0		4	° 6	0 7 6		
			Mowjeh	— 45	5 1 0		5 8 6	Mowjeh Taklee.	— 45	5 1 0	5 8 6	

Sent to the Assistant Superintendent on the day of

(Signed) **Measurer.**

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FORM NO. 4.

Statement showing the corresponding "Numbers," according to the order of the present measurements and the old Survey Series, and the tenure of each "Number," in the village of ....., Taluk.....in the.....District 1850.

"Numbers" according to the order of measurement	Old survey "Numbers"	Kind of tenure	Cultivated or waste	Names of "Inamdars," of Cultivators of Inam Land, and of "Kardas" of Government "Numbers," according to the Jamabandi Chitta
1	2	3	4	5
1	3, 4	Govt.	C.	"Karda" Hanumantha *bin* Thammappa Joaleehal.
2	25	Jodi	C.	The "Inamdar," Basavanna Gowda *bin* Bharmanna Gowda, is himself the "Karda."
3	26	Mahal Jodi	C.	The "Inamdar," Chanbasappa *bin* Basapa Desai, is himself the "Karda."
4	27 in part	Govt.	W.	

(Signed) Measurer.

(Signed) Shanbhog.

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FORM NO. 5.

Bill No. 1, for money due to labourers who have erected boundary mounds and stones in the village of Taluk..... ...District.....

Date of measurement	"Numbers"	Total marks, according to boundary book				Deduct marks not properly put up				Remainder properly put up to be paid for				Total cost for mound and stones
		Stones		Mounds		Stones		Mounds		Stones		Mounds		
		No. of	Amt.	No. of	Amt.	No. of	Amt.	No. of	Amt.	No. of	Amt.	No. of	Amt.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
15th November 1850 ...	1	3	0 0 9	14	1 13 0	...	...	3	0 5 0	3	0 0 9	11	1 8 0	1 8 9
Ditto ...	2	...	...	9	1 0 6	...	...	...	...	...	...	9	1 0 6	1 0 6
Ditto ...	3	3	0 0 9	9	1 0 0	...	...	1	0 1 6	3	0 0 9	8	0 14 6	0 15 3
16th ditto ...	4	...	...	13	1 3 6	...	...	...	...	...	...	13	1 3 6	1 3 6
Total ...	4	6	0 1 6	45	5 1 0	...	...	4	0 6 6	6	0 1 6	41	4 10 6	4 12 0

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The total of column 15, Rs. 4-12-0, should be paid to the principal labourers, Madivalappa *bin* Sivabasappa and Hari *bin* Rama, who have been directed to proceed to the Assistant Superintendent's or Amildar's office, as the case may be, to receive the same.

November 25th, 1850, Camp Taluk,

(Signed) Measurer.

The above sum of Rs. 4-12-0 has been paid to us by the Assistant Superintendent or Amildar, as the case may be, and we have received the same.

November 26th, 1850, Camp, etc.

The mark of Madivalappa *bin* Sivabasappa signed by
The mark of Hari *bin* Rama, signed by

In paying the above sum to the principal labourers, I have warned them to divide it, immediately they return to their village, among the whole of the labourers, but not on any account to give it to the measurer. In dividing it, however, I have told them that they may avail themselves of the assistance of the measurer.

November 26th, 1850, Camp, etc.

(Signed)

Assistant Superintendent.

(Or Amildar as the case may be.)

FORM No. 6.

Bill No. 2, for money due on account of boundary mark mounds and stones in the village of Mowjeh .....Taluk in the ..... District.

The four earthen mounds, which were entered in Bill No. 1 as not properly put up, being now rectified, and entered as such in the remark of inspection in the boundary book, the principal labourers, Madivalappa *bin* Sivabasappa, and Hari *bin* Rama, have to be paid Re. 0-6-6 for them. They are therefore directed to proceed to the office of the Assistant Superintendent, (or Amildar as the case may be) to receive payment for the same.

December 9th, Camp Taluk.

(Signed) Measurer.

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The above mentioned 6 annas 6 pies have been paid to us by the Assistant Superintendent, (or Amildar, as the case may be) and we have received the same.

December 10th, 1850, Camp, etc.

The mark of Madivalppa *bin* Sivabasappa, signed by
The mark of Hari *bin* Rama, signed by

(Signed)

Assistant Superintendent.
(Or Amildar as the case may be.)

FORM NO. 7.

Bill No. 3, for money due to labourers who have erected boundary mark mounds and stones in the village of Taluk.

Mariappa *bin* Hanumanth Wuddar having agreed to furnish as many stones as should be required, at the rate of 16 per Rupee, for boundary marks, and having now brought six stones, for which he is to be paid 6 annas, he has been directed to proceed to the office of the Assistant Superintendent (or Amildar as the case may be) to receive the same. The "Numbers" to which these stones are to be debited will be shown in the boundary mark book.

December 9th, 1850, Camp.....Taluk.

(Signed) Measurer.

The above mentioned 6 annas has been paid to me by the Assistant Superintendent, (or Amildar as the case may be) and I have received the same.

December 10th, 1850, Camp, etc.

The mark of Mariappa *bin* Hanumantha Wuddar, signed by

(Signed)

Assistant Superintendent.
(Or Amildar as the case may be.)

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Form No. 8.

Statement K, prepared from the boundary mark Book of Mowjeh Taluk showing the cost of boundary marks for each "Number," and the sums due for the same from neighbouring inam villages. 1850.

"Numbers" according to the order of measurement	Kind of tenure	Cultivated or waste	What has been expended for each "Number"		
			No.	Sum expended	Total
1	2	3	4	5	6
1	Government ...	C.	1	1 7 6	1 7 6
2	Jodi Inam ...	C.	1	0 7 9	
			2	0 11 6	1 3 3
3	Mahal Jodi Inam ...	C.	2	0 3 6	
			3	1 2 3	1 5 9
4	Government ...	W.	1	0 1 6	
			2	0 1 6	
			3	0 1 6	
			4	0 13 6	1 2 0
4			4	5 2 6	5 2 6
Mowjeh T. ...	Vyasa Rao Desai, Mahal, Dharwar.		4	0 6 0	0 6 0
4			4	5 8 6	5 8 6
Mowjeh S. Taluk.	Not to be collected ...			Abstract	
	Government ...	W.	1	1 2 0	1 2 0
	To be collected ...				
	Government ...	C.	1	1 7 6	1 7 6
	Inam ...	C. and W.	2	2 9 0	2 9 0
			3	4 0 6	4 0 6
4			4	5 2 6	5 2 6
Mowjeh T. ...	To be collected ...		...	0 6 0	0 6 0
Total 4 ...			4	5 8 6	5 8 6

Prepared by me,

(Signed) Karkun.

(Signed) Asst. Supt., Revenue Survey.

L 2

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FORM NO. 9.

Statement showing the sums to be collected on account of boundary marks, from the "Kardas" of Government Land, and "Inamdars," of Mowjeh .....Taluk..... 1850.

"Numbers" according to the order of measurement	Old survey "Numbers"	Kind of tenure	Sums expended on account of boundary marks	Names of persons from whom to be collected	Amount collected	Date of collection	Name of person from whom collected
1	3, 4	Government ...	1 7 6	"Karda" Hanumanta *bin* Tammapa Jaleehal.			
2	25	Jodi Inam ...	1 3 3	Basanna Gowda *bin* Barmanna Gowda "Inamdar," himself "Karda."			
3	26	Mahal Jodi Inam.	1 5 9	Chan Bassapa *bin* Bassapa, Desai "Inamdar," himself "Karda."			
Total 3 ...			4 0 6				

The Statement is forwarded to the Amildar, with letter No. dated, etc.

I have prepared this statement,

(Signed) Karkun.

(Signed) Asst. Supt., Revenue Survey.

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FORM No. 10.

Book of boundary mark expenses paid by Assistant Superintendent of Revenue Survey, 1850.

November 1850.

Credit.				*Debit.*			
25	0	0	Date 26th Amount credited from the book of general expenses.	4	12	0	Date 26th. Advanced as follows:—
				4	12	0	Paid by me this day to principal labourers, Madivalappa *bin* Sivabasappa and Hari *bin* Rama, who were sent with Bill No. 1 by Gangadar Chintaman, Measurer of Mowjeh...Taluk
				4	12	0	
				4	12	0	
20	4	0					Balance to be carried to the credit of next month.
25	0	0					Total, Rupees twenty five, from which Rupees four, annas twelve, having been expended, Rupees twenty and annas four remain.
							(Signed) Huzur Karkun.
							(Signed) Asst. Supt.

December 1850.

Credit.				*Debit.*			
20	4	0	Balance brought to account from last month.	0	12	6	Date 10th. The two bills mentioned below having been given by Gangadar Chintaman, Measurer of Mowjeh
5	8	6	Date 25th. The work of Mowjeh– Taluk,—being completed, and the				

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FORM NO. 10—*contd.*

papers having arrived from the measurer, the following sums, which were advanced on account of that village, are now brought to credit and debited finally to it:—

4	12	0	November 1850.
0	12	6	December 1850.
5	8	6	

12 6

Abstract.

20	4	0	Ready cash.
5	8	6	On account of advances.
25	12	6	

—Taluk, to the principal labourers and Waddar, the amounts are written off as follows:—

0	6	6	Bill No. 2. Principal labourers, Madivalappa *bin* Sivabasappa and Hari *bin* Rama.
0	6	0	Bill No. 3. Mariapa *bin* Hanumanta, Waddar.
0	12	6	Total. This sum of twelve annas and six pies was paid to the principal labourers and Waddar, by the Amildar of .....

5	8	6	Date 25th. The whole of the work of Mowjeh ...Taluk,... being finished, and the papers having arrived from the measurer, Chintaman Gangadar, the sums formerly advanced to this village have been brought to account, and are now finally debited according to Statement K, as follows:—
		2	6 On account of the village itself.
		4	0 6 To be collected.
		1	2 0 Not to be collected.
		5	2 6 Total.
	0	6	0 On account of Mowjeh T. alienated Village.
	5	8	6 Total.
	5	0	Total.

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FORM NO. 10—*concld.*

Abstract.

0	12	6	On account of advance.
5	8	6	On account of final debit.
6	5	0	Total
19	7	6	Balance to be carried to next month's credit.
25	12	6	Total, Rupees twenty-five, annas twelve, and pies six.

(Signed) Huzur Karkun.

(Signed) Asst. Supt., R. S.

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CHAPTER IX.

SETTLEMENT OF VILLAGE BOUNDARIES.

1. *Statutory provision.*—The boundaries of fields and villages, whether alienated or Government, will be fixed and all disputes relating thereto will be determined by survey officers or by such other officers as may be nominated by Government for the purpose. These officers will be guided by the rules prescribed in sections 126, 127, 128 and 129 of the Mysore Land Revenue Code, No. IV of 1888.

2. *Procedure when the boundaries of an adjacent village have been previously fixed.*—When the line of boundary between a village under measurement and any adjacent village has been previously fixed in the course of the survey of the latter, the measurements of the former village are to be made in accordance with this line of boundary; but when the limits of the two villages have not been so determined, the procedure prescribed in Chapter IX of the Land Revenue Code of 1888 should be followed as far as possible.

3. *Issue of notice to patels and shanbhogs of neighbouring villages summoning them to attend.*—When it becomes necessary to send for the patel and Shanbhog of a neighbouring village, the measurer should apply to the Assistant Superintendent for a notice, agreeable to Form No. 1 appended to this Chapter, addressed to the said patel and shanbhog. The day and hour on which they are required to attend at the boundary will not be entered in this notice by the Assistant Superintendent, and must therefore be filled in by the measurer. He should not, however, request their attendance in less than six days from the date of the notice. A receipt, according to Form No. 2 appended to this chapter, will be forwarded with the notice, to be also sent to the village authorities in question, who will sign and return it to the measurer, and he in his turn, should transmit it immediately to the Assistant Superintendent.

4. *Undisputed line of boundary to be marked off and agreement to be taken from both parties.*—If, on attendance, the patels and Shanbhogs of both villages do not raise any dispute, but show the same line of boundary, then the measurer is to have marks made along that line in the presence of both parties and having done so, he is to get a written agreement from them to the effect that they consent to the line of boundary marked off, and send it immediately to the Assistant Superintendent. The form for this written agreement or Rajinama headed No. 3 is appended to this Chapter. But in case the patel and shanbhog of the neighbouring village do not attend as required, the circumstance should be reported to the Assistant Superintendent.

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If, on the attendance of both parties, it should happen that although the land is cultivated on each side up to the line of boundary, they are not satisfied, but begin disputing, their dispute is not to be attended to, but the measurements made are to be exactly according to the line of demarcation between the cultivation of both villages.

5. *Procedure to be followed by measurer in case of boundary dispute.*—If on the attendance of both parties, the line of boundary is disputed, and the land in dispute is not cultivated, as mentioned in the foregoing rule, then chunam marks, likely to remain for two or three months, should be made all round the land in dispute; and it should be measured, and a sketch of it made, showing the Waslas into which it was divided in the course of measuremnt. It is not necessary however, to measure according to all the very small bends which may exist in the line which encloses the land in dispute. It will suffice to measure according to the large bends of this line; and should there be any cultivated pieces within the limits of the dispute they should be measured separately and shown in their proper places in the sketch. The sketch should also show whether the land surrounding the disputed area is cultivated or waste, and to what village it belongs.

6. *Memorandum explaining the sketch to be sent with Report.*—In the sketch above referred to, which is to be sent to the Assistant Superintendent, nallas, temples, old boundary mounds, natural ridges, trees, hills, and all permanent marks, should be shown; and in order that the Assistant Superintendent may understand the sketch well, an explanatory memorandum mentioning all particulars should accompany it. Forms Nos. 4 and 5 of the sketch and memorandum are appended to this chapter showing exactly what is required in them.

7. *Disputes between Government and inam villages.*—Assistant Superintendents are authorised to determine the boundaries between the Government and the adjoining inam villages, but the record of enquiry together with such extracts from documents as may be considered necessary, must be submitted to the Superintendent for confirmation.

Original documents are in no case to be taken from the possession of the parties unless specially sent for by the Superintendent.

8. *Records of settlement by arbitration to be sent to Amildar.*—When boundary disputes between villages are settled by arbitrators a record of their decision should be furnished to the Taluk Amildar.

9. *Settlement of boundaries where a stream has changed its course.*—In settling boundary disputes in spots where a stream has changed its course, the following rules are to be observed:—

(1) Deposits of soil thrown up by a stream appertain to

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the village to which the bank on which the deposit accumulates, belongs.

(2) The case is different when a stream suddenly alters its course without destroying any piece of land from either bank as in the formation of islands by a division of the stream or by the stream deserting its old channel entirely. In such instances the land remains with the village to which it originally belonged.

10. *Records of settlement between two Government villages.*—Records of settlement of disputes of boundary between two Government villages have to be filed in the Assistant Superintendent's Office and they are liable to be called for at any time. Such settlements do not require the sanction of the Superintendent, but all settlements made by the Measuring Assistants during the first year of their charge, must be submitted for approval.

11. *Records of settlement between Government and inam villages.*—Records of settlement of dispute of boundary between a Government and an inam village or between two inam villages, or between Amrut Mahal Kavals and the adjoining villages, have to be forwarded with a map of the disputed boundary, etc., for the sanction of the Superintendent. The papers are filed in his office.

12. *Language of record.*—Records of settlement of boundary disputes forwarded for sanction should be written in English on paper of foolscap size; those not requiring the sanction of the Superintendent may be in Kannada but a summary of the evidence, reasons for decision and final settlement must be kept in English by the Assistant Superintendent in his own office, making a note of it in the Register of Boundary Disputes.

13. *Register of boundary disputes to be maintained.*—A Kannada record of all transactions relating to boundary disputes should be maintained in a separate register by every Assistant Superintendent who is required to sign it every month noting therein the entries 'correct' or 'nothing occurred' according to circumstances.

14. *Disputes between inam villages.*—Boundary disputes between two inam villages should be settled by Survey Officers only and not by measurers, classers or surveyors.

15. *Procedure to be followed when village boundary is settled by agreement.*—When the villagers agree to a certain line of boundary, they must give a Rajinama to that effect. This must be signed by the patel and shanbhog of each village and by the inamdar or his representative in the case of an inam village. In order to obviate complaints that the demarcation was not made in accordance with the line agreed upon, places, marks or topographical features, if any, which could be identified in the field should be noted as far as possible in the agreements executed by the parties.

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16. *Razinama to be taken by each measurer separately.*—When there are two or more measurers employed in one village, each official should take the Rajinamas connected with his own work only.

17. *Razinamas to be filed separately.*—When the measuring books are sent in by the measurer to the Assistant Superintendent's Office, he should submit with them a memo showing the name of every village which touches his work with a remark as to how each boundary has been settled. The several Razinamas taken by him should be attached in original to the memo which will be filed in the Assistant Superintendent's Office in a separate file book kept for that purpose. This file book must have an index attached to facilitate reference. The Huzur Karkoon should be held answerable for any deficiency in this book.

18. *No muchalika needed when an award is made.*—When an award is made in the prescribed manner, an Assistant Superntendent is forbidden from taking a 'Kabuliyat' from the villagers that they agree to the settlement made by him.

19. *Correspondence relating to boundary disputes.*—Assistant Superintendents in charge of Field Establishments should correspond direct with the Superintendent in all matters relating to boundary disputes.

20. *Notice in the case of Amrut Mahal Kavals.*—In the case of boundary disputes relating to Amrut Mahal Kaval, should the "Shervegar" not be present to represent the interests of that department, a notice must be sent by the Assistant Superintendent to the Superintendent, Amrut Mahal Department, giving him at least 6 weeks notice, so that he might depute a representative to be present.

21. *The entire boundary of an Amrut Mahal Kaval to be settled at one time.*—In settling the boundaries of an Amrut Mahal Kaval, the entire boundary must be settled at once, and not merely that portion which touches any one or more villages which may be in course of measurement.

22. *Obtaining documents pertaining to Amrut Mahal Kavals.*—Before settling disputes in which Amrut Mahal Kavals are concerned, the Assistant Superintendent must ascertain from the taluk authorities whether there are any records bearing on the subject in their possession, and if there are, he must request their production for enabling him to take them into consideration in forming his decision.

23. *Lands in the enjoyment of raiyats.*—The Amrut Mahal Department cannot lay any claim to stubble grazing if the cultivating raiyats are shown to have enjoyed such lands for at least 5 years, paying full assessment therefor. Such lands should be excluded from the kavals concerned.

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FORMS REFERRED TO IN CHAPTER IX.

FORM NO. 1.

From.. .....Assistant Superintendent, Revenue Survey, ...to the Patel and Shanbhog of Mowjeh .....in the.....Taluk, of the.....District, the following orders are sent:—

1. The measurement of Mowjeh.. .....of the..... Taluk, is now in progress, and on the morning of the..... day of.....those fields which join on to the line which forms the common boundary of the village and your own will be measured. You are therefore on that day to be present at the specified time, and show the measurer the line of boundary between the two villages. In this fail not.

2. If there is a boundary dispute between the above village and your own, the measurer will make a rough measurement of the disputed land, and have temporary chunam marks made all round it. When he is doing this, you should on no account throw obstacles in his way; for it is not to be understood that the marks the measurer will put up are to be for the permanent boundaries. When the papers connected with the measurement of the disputed land arrive from the measurer, I shall investigate the case, and make arrangements for fixing the boundary line. You will in the mean time receive orders to be present at the time of investigation, with any documentary proofs you may have of your claim to the land.

3. No investigation will be made of disputes for land cultivated on either side of the boundary line; for the measurer has received orders that in all cases where the land is cultivated on both sides up to the line of boundary, he is to measure according to the line which divides the cultivation of both villages. You are therefore not to raise a dispute about land which is at present cultivated by Mowjeh..... If you do, it will not be attended to.

4. If, as directed in the 1st para, you do not attend on the ....day of.....to show the line of your boundary, and if, in consequence, it becomes necessary to fix the line of boundary without consulting you, any dispute which you may afterwards make about the line laid down will not be listened to. Therefore make it a point to be present, as directed in the order, a printed receipt acknowledging which is herewith forwarded, which you will sign, and return per bearer.

Dated *Camp,*

(Signed)

Assistant Superintendent, Revenue Survey.

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FORM No. 2.

Receipt in the name of the patel and shanbhog of Mowjeh .....in the..... Taluk of the.....District
An order having been sent us by.....Assistant Superintendent, Revenue Survey, dated.....directing us to be present in the fields on the.....at the hour of.....for the purpose of showing the line of boundary between our village and Mowjeh .....we hereby acknowledge the receipt of that order.

Date.

(Signed)

Patel and Shanbhog.

FORM No. 3.

Rajinama, in the name of the patel and shanbhog of Mowjeh.. .....in the.....Taluk of the.....District

Having received directions to be present to show the boundary line between our village and Mowjeh.....we attended, and showed the line of boundary to the measurer of Mowjeh .....who made marks along it; and this is to say, that we are willing that measurements should be made accordingly, and shall throw no obstacles in the way.

Date.

(Signed)

Patel and Shanbhog.

Witnesses,

1. 1.

Despatched to Assistant Superintendent, Revenue Survey, with report No. dated

(Signed) Measurer.

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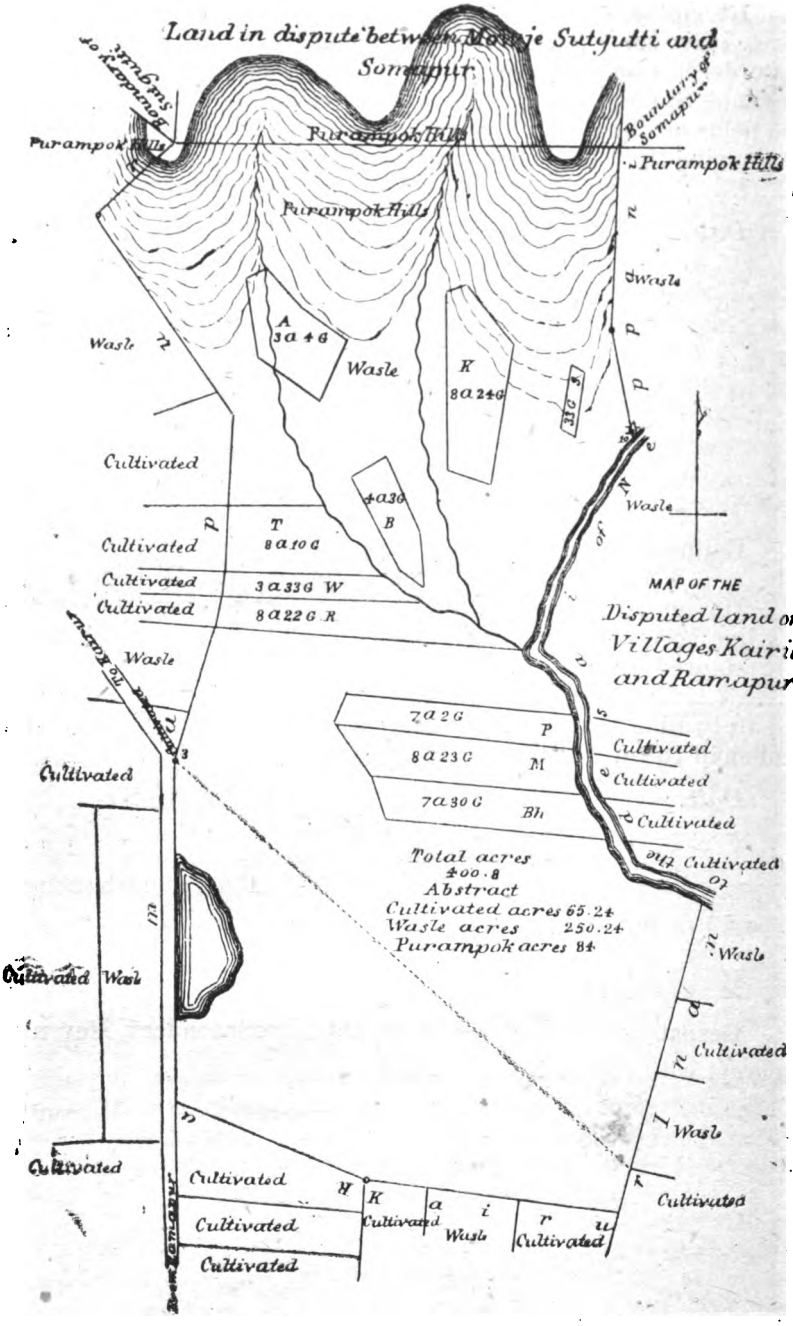
Form No. 4.



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FORM No. 5.

Memorandum explanatory of the sketch of a piece of land in dispute between Mauje R of the C Taluk and Mauje K, an alienated village, belonging to D.

1. Nos. 1 to 7 inclusive represent the line which the patel and shanbhog of K state is the boundary. At 1, 3, 6 there are stones, with inscriptions of the sun and moon on them.

2. Nos. 8 to 13 inclusive, and 1; represent the line which the patel and shanbhog of R state is the boundary. At 9 there is a stone, with an inscription of the sun and moon on it. At 10 is a temple of Lakshmi. At 12 is a square piece of masonry, 2 cubits in length and breadth, and 1 cubit in height.

3. P, M, BH, and S represent pieces of land at present cultivated by the people of K. This is allowed by both parties.

4. T, W, and R, represent pieces of land cultivated by the people of R. This is allowed by both parties.

5. A, B, and K, represent pieces of land which the people of K. assert have been many years cultivated by Rama *bin* Santhba, and Bhima *bin* Yesba, of their village; and which on the other hand the people of R, assert are three pieces which for the last three years have been reclaimed from the waste, and cultivated by Gopal *bin* Sudba, of their village.

6. The water from the tank shown in the sketch is conveyed towards Manje R.

7. The line of boundary between S and S. T, branches off at a point on the northern boundary of the land in dispute; and the people of S, assert that the lands of their own village, of K, R, and S T, meet at 7. The people of S T, assert that they meet at 8.

8. Anything required beyond the information contained in this memorandum will be found in the sketch.

(Signed)

Measurer.

Despatched to the Assistant Superintendent of Revenue Survey with Report No. dated

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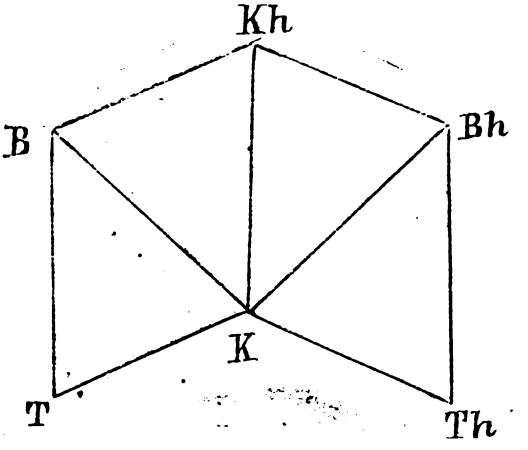
CHAPTER X.

Theodolite Survey.

1. In surveying with the theodolite or field compass, the first requisite is to select a piece of level ground conveniently situated for a base-line, by means of which, and angles taken with the instrument, as many points as may be required for the construction of a Map of the hilly ground to be surveyed, may be fixed without further measurement. For example, in the Sketch, K, Kh, T, Th, B, Bh, given below, by angles taken from the extremities of the base-line K and Kh, the points B and Bh, on each side of the line, forming the third angles of two triangles, may be fixed; and afterwards, by placing the theodolite at B and Bh, and taking angles to T and Th, provided they were previously taken from K, they also may be fixed. Thus, without measuring any more lines with the chain, a set of points may be correctly fixed by means of angles.



It is not, however, to be understood from what is stated above, that besides the base-line no measurements with the chain are to be made. It will generally be desirable, and save trouble, to use the chain where the ground is level and free from obstructions, and to resort to triangulation where the ground is hilly and difficult.

2. In fixing points by triangles with the theodolite or field compass, the angle at the point to be fixed should not be very acute. The sum of the three angles of a triangle are equal to 180°, of which it will be most advisable to have the angle at the point to be fixed 90°, but as this can seldom be managed in practice, care must be taken to have it from 30° to 150°. If less than 30° it will not be of much use, and therefore, such small angles must never be used when there is a possibility of having larger ones.

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3. The third angle of a triangle may be fixed by angles taken from two points; but as mistakes are likely to occur in reading the degrees and minutes off the theodolite, or in writing them down, some doubt will always be felt regarding points fixed by two angles only; and it is therefore necessary, besides angles from the other two angles of a triangle, to have its third angle fixed by an angle from some point already secured. The advantage of this will be seen in plotting the work; for if the three lines which form the angles taken to a point cut in one place, no doubt will remain as to its correctness; whereas doubts will always attach to a point fixed by the intersection of only two lines. It is, therefore, necessary, whenever it is practicable, to have every important point fixed by three angles.

4. In commencing work at the first station, after levelling the theodolite, setting the vernier to 360°, and clamping the upper plate, the body of the instrument should be moved round, till the needle in the compass points to 360° North. The lower clamping screw should then be tightened, the screw of the upper plate loosened, and the telescope moved round from North to East, in order, to all the points which are to be fixed. The bearings of each should be written as it is taken; and, to prevent errors, the vernier should be looked at a second time, before the telescope is moved from one point to anther. After all the points are taken, the telescope should be pointed to the place at which it is intended to have the next station, and the upper plate clamped.

5. On putting up the theodolite at the second station, the clamping screw of the upper plate should not be loosened till the lower one is, and the telescope turned to the signal at the first station. When this is done, the precaution should be taken of reading the instrument, in order to see whether it bears the same bearing to the first station as the second did from it. If it does, the lower clamping screw should be tightened, the upper one loosened, and the telescope moved round in order to the points to be fixed, in the same way as at the first station. It is not necessary at the second or any succeeding station to set the theodolite according to the needle, but according to the bearing taken to it from the preceding station. In surveying with the field compass, however, in as much as 360° always points to the North, all that is necessary at any station is to level it.

6. Forms for field book, rough sketch, and map, headed Nos. 1 and 2, are appended to this Chapter, showing how angles should be taken in surveying with theodolite or field compass and the manner in which they should be entered. A careful study of these will afford full instruction as to how the work should be carried on.

7. A sheet, ruled and divided into squares of 20 chains in dimensions, will be furnished, protracting for the theodolite

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measurements. Of the lines composing these squares, one set should be considered as denoting the direction from North to South, and the other that from West to East. These lines will be found very useful in laying off the angles, and representing the shape of the hills, the latter of which must be done in the manner shown in the form.

8. The measurements made and entered in the field book should be plotted every day, on returning from the fields, on the ruled sheet; and the day following, in case it is necessary to go to the points fixed, the sheet should be taken to them, and the surrounding hilly parts sketched in pencil on it from them. While doing this, distances from these, or from other points already fixed, to the ridges or other features of the hills which are to be shown, should be measured when possible; but when it is not possible to do so, these distances may be guessed at, and the features sketched accordingly. The whole should afterwards be neatly drawn in ink by means of a fine steel pen.

9. In the form, stations 1, 2, 3, and 4 are represented near hills, and on or near the boundaries of culturable land, but it is not to be concluded from this that such places are always to be selected for stations. The surface of culturable land at the foot of hills is generally so uneven, that to measure from one station to another along it would be very difficult; and, therefore, an even surface should be sought for, to commence the theodolite survey, and if it cannot be found near the foot of the hills, places at some distance, from which the points to be fixed on the hills can be seen, should be selected for stations.

10. In case the culturable land has not previously been measured with the cross-staff and chain, several of the stations made in the culturable land during the theodolite measurement should be marked by driving a long wooden peg into the ground, and placing a stone daubed with whitewash by each peg. These pegs and stones should be shown to the Village Officers, and to the raiyats in whose "Numbers" they are fixed, and they should be told to preserve and show them to the Measurer who may afterwards come to measure with the cross-staff, in order that he may enter them in his rough and fair field books, and fix them on his map. It is not necessary, however, for the cross-staff measurer to fix those stations which the Theodolite measurer may make, which are near each other; it will be better for him to fix those which are separated by long distances; for by so doing, the joining of the theodolite measurer's map with his own will be more accurately done. And in order that the places selected for stations by the theodolite measurer may be easily found by the cross-staff measurer, the former should make a report to the Assistant Superintendent, mentioning the Numbers and the Kardas of the fields in which they are situated, and their

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position in those fields, so that directions may be given to the cross-staff measurer as to where they will be found.

11. It is not necessary for the theodolite measurer to fix the line of demarcation between the hilly and culturable portions. In case, however, the hilly portions extend to the boundary of the village, the theodolite measurer should fix all the corners and bends along the line of boundary, and mark them well with white-wash. The boundary marks along it, and along the line of demarcation between the hilly and culturable portions will be made according to chapter VIII by the cross-staff measurer.

12. In case the cross-staff measurements of a village are finished before the hilly or other difficult portions are commenced, the boundary lines of numbers which are crossed in the course of measuring base-lines for theodolite measurement should be marked, and mention made in the field book, in the manner shown in Form No. 1, of the numbers to which they belong; and when corners of numbers are within a short distance of base-lines, off-sets should be taken to them, and such corners, as well as the boundary lines of numbers which have been crossed as above, should be shown on the map.

13. As the form of the field book given at the end of this chapter is merely intended to give an idea of what entries should be made, very few examples are given. It should therefore be understood, that all necessary entries should be made, and the only precaution necessary to be mentioned is, that the book should be written so plainly that a Karkun unacquainted with the features of the hilly or difficult portions measured would be able from it to plot them. In case the Assistant Superintendent should furnish another form for the entries of theodolite measurements, it should be adopted; otherwise no deviation should be made from this form.

Traverse Survey.

14. The system of Survey by "Traverse" (with a traverse table) should be adopted whenever practicable.

15. It has the following advantages :—

(1) After the meridian line has once been determined, a compass (which cannot be depended upon in delicate work) is not required.

(2) The sum of the inner angles of a Polygon bear a determinate proportion to the number of sides, thus affording an easy means of checking the correctness of the angles.

(3) There is a ready means of checking the chain measurements, because if there is the *least* error, the sum of northings (in the computation table) will not be equal to the southings; or else the total eastings will not tally with the total westings.

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(4) There are peculiar facilities for plotting the figure, with the greatest possible accuracy, as no protractor is necessary.

(5) The exact *area* of the Polygon is at once determined.

(6) A series of these exact areas of villages, drawn to the same scale, form when put together a very valuable district map.

16. In making a Traverse Survey, two simple rules serve to prove the work.

(1) For the angles. That the sum of all interior angles of the Polygon, shall be equal to twice as many right angles as the figure has sides *less* four right angles, and the sum of the outward angles shall be equal to twice as many right angles as the figure has sides *plus* four right angles.

NOTE :—In actual practice the columns of latitude and departure will not balance exactly, for inaccuracies must arise from observations and chaining in the field, which no care can obviate. To adjust these differences previous to plotting, the rule is that if a discrepancy equal in the aggregate to 5 links for every station should be found between the totals, then an error must have been made in the field, which can only be discovered by re-survey. When, however, differences are within the above limit, the error must be apportioned among each of the distances of the survey by the following proportion :—

"As the sum of all the distances is to the whole error, so is each distance to its correction".

Having found the several corrections for each of the latitudes and departures, add them together severally and see whether their total agrees with the whole error, and if so, allot the corrections in the following manner :—

If the error be an excess of northings subtract each correction from its collateral northings or add it to the collateral southing, if an excess of easting, add to the westing, and subtract from the easting the corrected sums of the corrected latitudes, and departures will then be found to agree exactly.

(2) For the lines. That the sums of the northings be equal to the sums of the southings, and the sums of the eastings be equal to the sums of the westings.

17. It is necessary to observe that however correctly distances may be measured, unless the angular work is also correct, the result will be unsatisfactory, but with both these data accurately determined, the proof will be positively *certain*.

18. There is this great difference in a survey made by the rigidly mechanical method of the back angle, and by the comparatively speaking, scientific process of traverse. In the one, if an error creeps into any one of the lines, it remains all through the survey. In the other (as the lines are measured from the starting point of the one constant meridian and perpendicular) the error, if any, will only occur in the line in which it is made and not affect the next in the smallest degree.

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19. The following example will show how a Traverse Survey is performed.

20. Let N S (on the figure page opposite) represent the meridian or line of latitude of the first or starting station of the boundary survey of a village, then the way to determine the bearing of the station lines AB, BC, etc., is as follows:—

(1) commence to work so as always to keep the figure you are surveying on your left hand.

(2) set up your Theodolite at the first station "A", and adjust it accurately in the plane of the *magnetic* meridian (*i.e.* see that 360° coincides with the north point as shown by the needle).

21. Next observe the bearing of the line A B.

22. Leaving your attendant measurer at station A, remove the instrument to station B, and observe both the outward and inward angles formed by the lines AB, BC, which is done by adjusting and fixing the instrument on the back station A, by turning the telescope round to the right until it covers the "nishan" staff at station C, when the inward angle ABC will be registered on the limb of the instrument, and must be entered in the field book (column 3). Next adjust the instrument to the fore station C, and by turning the instrument round as before, until the wires rest on the "nishan" staff at A, the outward angle CBA will be registered on the limb of the instrument, and must be noted in the field book (column 2), next to the inward angle. Lastly, turn your instrument on C, and clamp the upper plate, now signal your measurer to chain from A to B, and when he gets up to you, note the distance in the field book (column 7), and proceed in the same way at every station for the remaining angles and sides.

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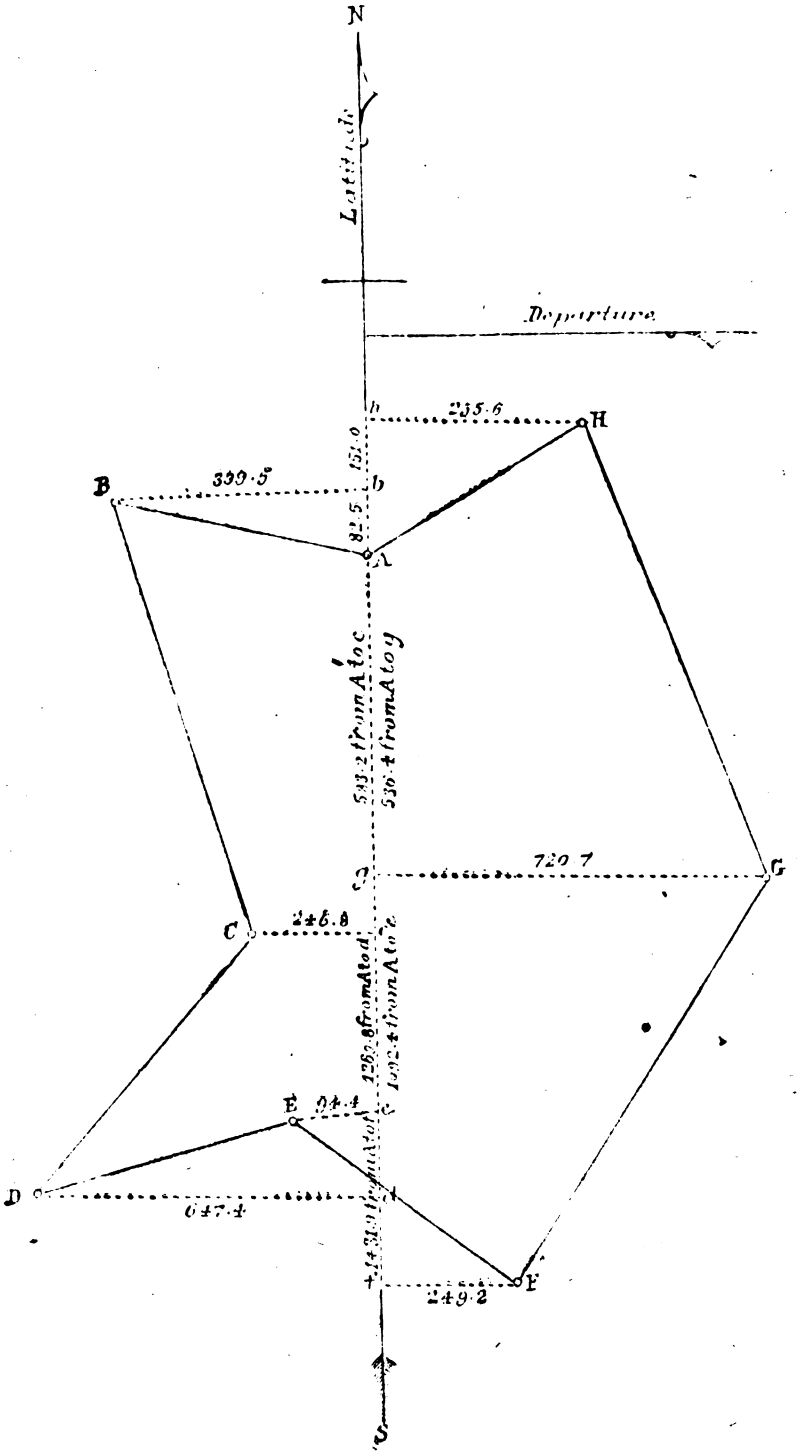

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23. As the sum of the inward and outward angles at *each station* should together make 360°, nothing can be so easy as to check the operation as it proceeds, and no error can possibly occur except through the carelessness or neglect of the observer.

24. The following is the field book and table combined, showing the mode of computing the area of any Polygon.

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Stations	Observed angles				Bearings by Theodolite		Cardinal Direction	Reduced Bearings		Distances measured in the field		Latitude				Departure			
	Outward angles		Inward angles									Distance on the meridian				Distances on perpendicular			
												North		South		East		West	
1	2		3		4		5	6		7		8		9		10		11	
	Degrees	Minutes	Degrees	Minutes	Degrees	Minutes		Degrees	Minutes	Chains	Links	Chains	Links	Chains	Links	Chains	Links	Chains	Links
A	...	...	...	...	281°	40′	N. W.	78°	20′	4	08	...	82·5	...	...	...	.	3	99·5
B	294°	35′	65°	25′	167°	05′	S. E.	12°	55′	6	83	...	...	6	65·7	1	52·7	...	...
C	136°	49′	223°	11′	210°	16′	S. W.	30°	16′	7	95	...	...	6	86·6	...	...	4	00·6
D	317°	46′	42°	14′	72°	30′	N. E.	72°	30′	5	80	1	77·4	...	...	5	53·2	...	...
E	117°	49′	242°	11′	134°	41′	S. E.	45°	19′	4	83	...	...	3	39·5	3	43·4	...	...
F	286°	55′	73°	05′	27°	46′	N. E.	27°	46′	10	12	8	95·5	...	...	4	71·5	...	...
G	240°	51′	119°	09′	326°	55′	N. W.	33°	05′	8	30	6	87·4	...	...	...	...	4	65·1
H	267°	29′	92°	31′	239°	26′	S. W.	59°	26′	2	97	...	...	1	51·0	...	...	2	55·6
A	137°	46′	222°	14′	281°	40′	N. W.	78°	20′	Total ...		18	42·8	18	42·8	15	20·8	15	20·8
	1,800	00	1,060	00								The sum of the northings is equal to the sum of the southings.				The sum of the eastings is equal to the sum of the westings.			
	180 by 8 =1,440 +360 =1,800		180 by 8 =1,440 −360 =1,060																
	Q. E. D.													Q. E. D.					

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Stations	Latitude: Distances on the meridian of each station from the first station on the series			Departure: Distances on the perpendicular of each station from the first station on the series			Sums of pairs of co-ordinates to be multiplied into columns 8 and 9 for area			Area: Products obtained by multiplying column 14 into columns 8 and 9 — North		Area: South		Abstract
	12			13			14			15		16		17
		Chains	Links		Chains	Links		Chains	Links	Chains	Square Links	Chains	Square Links	
A	...	...	...	...	...	...	W	3	99·5	...	...	0	32,958	
B	N	...	82·5	W	3	99·5	W	6	46·3	4	30,242	...	..	Sum of—
C	S	5	83·2	W	2	46·8	W	8	94·2	6	13,957	...	...	Northings .. 25·83,852
D	S	12	69·8	W	6	47·4	W	7	41·6	...	...	1	31,560	Deduct
E	S	10	92·4	W	...	94·2	E	1	55·0	...	...	0	52,622	Southings ... 2·55,735
F	S	14	31·9	E	2	49·2	E	9	69·9	8	68,545	...	...	2)23.28,117
G	S	5	36·4	E	7	20·7	E	9	76·3	6	71,108	...	...	11·64,058
H	N	1	51·0	E	2	55·6	E	2	55·6	...	...	0	38,595	40
														25·62,320
A	...	...	...	...	...	...	...	...	...	25	83,852	2	55,735	Area—11 acres and 25 guntas

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25. The only columns to be filled up by the Surveyor in the field are 1, 2, 3, and 7, all the remainder are deduced from them afterwards.

26. The surveyor should invariably *observe* the outward as well as the inward angles, and if the sum of them, when observed, does not equal 360° either the outward or inward angle has been taken incorrectly, and must be observed over again. Having filled in these columns on the lithographed sheet furnished for that purpose, the Surveyor will send a duplicate to the Assistant's office, as each village boundary is finished.

27. The Assistant will then proceed to fill in the remaining columns of the duplicate, as follows :—

28. *Column 4.* "Bearings by Theodolite."

Rule.

To the bearing, by the theodolite, of the line preceding that of which the bearing is sought, add the inward angle by these two lines, and the sum of the two angles increased or diminished by 180° (according as they may be less or more than 180°) will be the bearing of the line in the direction required as registered on the limb of the instrument, which enter in column 4.

The computations for the bearings are very simple as shown below. Take for example the side A B :—

Observed bearing of A B		...	281°40′ N. W.
Add inward angle A B C		...	65°25′
	Total	...	347°05′
	Deduct	...	180°00′
Bearing of side B C		...	167°05′ S. E.
Add inward angle B C D		...	223°11′
	Total	...	390°16′
	Deduct	...	180°
Bearing of side C D		...	210°16′ S. W.

and so on till (for example) the side G H is arrived at when the operation will be thus :—

Bearing of the side F G		...	27°46′ N. E.
Add inward angle F G H		...	119°09′
	Total	...	146°55′
	Add	...	180°
Bearing of the side G H		...	326°55′ N. W.

Note.—If the sum of the preceding bearing and forward angle *after deducting* 180°, amounts to more than 360°, deduct 360° from the total, the remainder will be the bearing of the next line. Now if the bearings are worked correctly, the bearing opposite A in the last line should come out the same by rule as it does by observation.

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29. *Column 5* is the cardinal direction.

30. *Column 6.*

Before the difference of latitude and departure can be taken out from the tables, not only the theodolite bearing, as now found and shown in column 4 is necessary, but also the reduced bearing, that is the angle which it forms with the meridian, counted from the north or south, towards the east or west, which is obtained as follows :—

When the bearing by theodolite is between 0° and 90° or N. E., no reduction is required—90° and 180° south east subtract it from 180°—180° and 270° south west subtract 180° from it—270° and 360° north-west, substract it from 360°.

Note.—The cardinal direction indicated in column 5 is also found by this rule. The column 6 (of reduced bearings) is obtained in the following simple manner :—

Bearing of A B	...	281°—40′ N. W.
Subtract from	...	360—°0′
Reduced bearing	...	78°—20′
Bearing of B C	...	167°—05′ S. E.
Subtract from	...	180°—0′
Reduced bearing	...	12°—55′ S. E.

The reduced bearings obtained as above are to be entered in column 6.

31. *Column 7.* Distances measured. This has already been filled up by the Surveyor in the field.

The data are now ready (*viz.*, columns 6 and 7) for finding from the Traverse Tables for each line and bearing the distances gone north or south, east or west, which, on being found, are to be entered in columns 8 or 9 and 10 or 11 (as the case may be) opposite to the distance for which they are taken out.

Examples.—Take station C. The reduced bearing is 30°·16′ and the measured distance is 7·95.

Now turn to page 63 of the tables (Colonel *Boileau's) at the top of which you will find the index 30°. Look down the extreme left column, but one, marked M, till you come to 16 minutes, and from the column of distance D, take out :—

Latitude and Departure.

Bearing 30°—16′	First.	
Distance 7·95	700.=604·582,—352·817,	
	next,	
	90,=77·732,—45·362 ;	
	then,	
	5.=4·318,—2·520	
7·95	686·632 S.	400·699 W.

*Traverse Tables by Colonel Boileau is an indispensable reference book for Traverse Survey.

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Thus the southings 686·6 will be entered in column 9 and the westings 400·6 in column 11.

Again take station F.—

The reduced bearing is 27°—46′ and the distance measured 10·12.

Now turn to page 57 of the tables, at the top of which is the index 27°. Run down the left hand column, but one, till you come to 46 minutes. Now take out your distances from the column marked D, which will be as under—

Bearing 27°—46′	Distance	Latitude	Departure
First for	1,000	884·852	465·872
Then for	10	8·848	4·659
Do	2	1·769	0·932
	..	895·469 N	471·463 E

Therefore 895·5 northings will be entered in column 8 and 471·5 easting in column 10.

32. Columns 12 and 13. These relate to Plotting.

They are deduced from the four preceding columns, and give the co-ordinates by which the whole survey can be plotted in a most simple and correct manner.

Example.—Take the distance of the line A. B. the Traverses of which N. 82 —5 and W. 3,99·5 are respectively entered in columns 8 and 11 in a line with the letter A as determining the position of the point B, in latitude and departure taken from A, so they are entered in columns 12 and 13 against the letter B as it is the position of the point *which has been fixed*, and not *which has to be fixed*, that is now required to be shown.

The first Traverse being so entered, the remainder are found by taking the sum or difference of the latitudes and departures immediately succeeding each other, according as they are the same or of contrary denominations (*i. e.* north or south, east or west) and entering them in the columns corresponding thereto. Thus in columns 8 and 9 the number following after N. 82·5 links is latitude S. 668·7 links, the difference of these two values, because they are of different denominations (*i. e.* one is north and the other south), leaves south 5,83·2 links to be entered in column 12, on the next vacant line or opposite C. Again the number following in columns 8 and 9 is 686·6 links, which is to be added to the value last found or S. 583·2 links being the same denomination, and the sum S. 1269·8 links entered in column 12 (south), immediately following the above in a line with D. The departures in column 13 for easting and westing are found in exactly the same way from columns 10 and 11, and

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these values express the positions of the several stations: with reference to the first station whether north or south, east or west of it, all *being scaled* from that station, or from a point on the meridian passing through it. These two columns (*viz* 12 and 13) are used in plotting the stations and distances, as explained below, in detail.

Draw any line N. S. (*vide* figure given in para 20) to represent a meridian and take any point A in that line to represent the first station of a survey. From A, mark off northwards on the meridian line 82·5 links, and to note the point put b; from "b" on a perpendicular line towards the west, mark off 399·5 links which will denote the station B. Then draw the line AB.

A b will represent the amount of northing and Bb B the quantity of westing of the station B as referred to the first station A.

Again, and still from A, mark a point c on the meridian line N. S. 583·2 links south, and from c on a perpendicular to N. S. take a point west 246·8 links, which will be station C. Then draw the line BC.

Next and still from station A, mark a point "d" on the meridian N. S. 1269·8 links; and from d, in a perpendicular to N. S., mark a point west 647·4 links, which will be station D. Draw the line CD.

Next from A, mark a point "e" on the meridian line 1092·4 south and from that point lay off a perpendicular 94·2 west, which will give station E. Draw the line DE.

Next from A, mark a point "f" on the meridian line south 14,31·9, and lay off 249·2 east which will give station F. Draw the line EF.

Next from A, mark the point "g" south on the meridian line 536·4 and on it the perpendicular g G 720·7, east which will give station G. Draw the line FG.

Lastly, mark a point "h" distant north from the first station A 1·51, and from the point "h" lay off a perpendicular 255·6 east, which will give the station H. Draw the line GH.

Next draw the line HA, which will be 2 chains 97 links in length.

Now if the lines (AB), (BC), (CD), (DE), (FG), (GH), and (HA), are scaled, they will be found to correspond exactly with the lines measured in the field by the measurer as shown in column 7 of the Table and Field book. The data for plotting the whole of the work are now complete.

33. *Column 14.*—This is deduced entirely from column 13 and contains the sums of the distances on the perpendicular of pairs of co-ordinates, of the same denomination, which are to be multiplied into columns 8 and 9 for area, according as north or south products are required.

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34. At this stage of the proceedings the plotted figure will make it clear that the northings and southings represent the ordinary "*lambees*" while the easting and westing represent the ordinary "*roondees*" of every day cross-staff measurement. Now if the co-ordinates are called "*roondees*" it will at once be seen that column 14 is only the sums of pairs of "*roondees*" of the same denomination collected from column 13 as below.

Line on the plot "*roondee*":—

A departure of A to B or b B = W. 3995				
B C	A to B	b B —	W. 3995	
	A to C	c C —	W. 2468	
			W. 6463	Sum of the co-ordinates or "*roondees*" bB and cC.
C D	A to C	c C —	W. 2468	
	A to D	d D —	W. 6474	
			W. 8942	Sum of the co-ordinates or "*roondees*" cC, dD,
	A departure of—			
D E	A to D	d D —	W. 6474	
	A to E	e E —	W. 942	
			W. 7416	Sum of the co-ordinates or "*roondees*" dD and eE.
E F	A to E	e E —	942	
	A to F	f F —	2492	Here you deduct because the denomination of co-ordinates changes from westings to eastings.
	Difference	..	1550	
F G	A to F	f F —	2492	
	A to G	g G —	7207	As the co-ordinates are now both easting (the same denomination), you add again sum of co-ordinates fF and gG.
			9699E	
G H	A to G	g G —	7207	
	A to H	h H —	2556	
			9763E	Sum of co-ordinates gG and hH.
H. A	A to H	h H —	2556E	Remaining co-ordinate.

The co-ordinates found as above are to be entered in column 14 opposite to their corresponding letters, commencing with the first 3995 opposite A, and then the next pair 6463 opposite B, and so on all through the series.

35. All that remains now is to find the area, which is done by multiplying the entries in column 14 by the opposite and corresponding entry in column 8 if a northing product is required, and column 9 if a southing product is required.

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Columns 15 and 16 contain the products which result from this multiplication; and in filling them in, it is necessary to observe very carefully the following simple rule:—

Rule.

The *standing* rule is that the total of all south products found by the south multiplier in clumn 9 and entered in column 16 are to be deducted from the total of north products found by the north multiplier in column 8 and entered In column 15; and this is always done for the products of all figures (*i.e.*, "waslas") the sides of which run north to the east of the meridian line; but for those figures (*i.e.*, waslas) the sides of which run north to the west of the meridian line the process is transposed, and all products of sides running north, to the west af the meridian are placed in the column of south products, and *vice versa*; all products of sides running south to the west of the meridian are placed in the column of north products.

For example.—Side AB, column 14, is (westing) 3995 W by 825 N (northing) in column 8 and would according to its *north* multiplier give a *north* product equal to 32, 3295875, but as the side AB lies west (*vide* plan) of the meridian, it is entered in the column of southings.

It is not at all necessary to see the plot to determine which are north and which are south products, as in column 5 the cardinal direction of every boundary line is indicated.

36. In other words, the southing is invariably to be deducted from the northing before the area is found; and if by mistake northing products are entered in the southing column, or *vice versa*, confusion will result. The above rule applies to every Polygon figure having portions on each side of a meridian line running through it; and it is to get the advantage of this rule that the surveyor is required to invariably commence his survey from a point through which when the meridian line passes, a portion of the village would be on each side of that meridian, as in the example given; for it must never be lost sight of that we are surveying for *contents* as well as for figure, and the entire boundary line of each village must therefore be separately surveyed, although, of course, boundary lines common to two villages which have been once surveyed need not be gone over again, the corrected results of the first survey being entered in the field book. The plan of laying down a *datum* line outside the figure, for calculating the area, is antiquated and quite unnecessary. Every part of the work can be performed from the first station on the single meridian laid down.

37. Having filled in the north and south products in columns 15 and 16, add up columns north and south, deduct total south product from total north product, and the remainder will be double the area of the figure, in square acres and links.

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Some village boundaries are so very tortuous that it may be necessary to take offsets and insets, instead of making stations at every bend. In this case the offsets and insets are to be taken in the usual manner (and recorded on a rough plan of the boundary), and their product is to be added for offsets and deducted for insets to or from the "remainder" as shown above.

38. Rules for Survey (by Traverse) of Jungle Villages—

I

All Surveys will be on the Magnetic Meridian.

II

No circuit survey will be attempted till a proper chain line has been cut and stones erected to mark the boundaries.

III

The Surveyors will survey precisely according to the rules laid down for Traverse.

IV

As the field work of each jungle circuit is finished, the surveyor will send a duplicate of his field sheet to the assistant, who will fill in the blank columns of the Traverse Table, and find the area according to rules.

V

A plotter will be attached to each Assistant having charge of a jungle survey.

VI

The plotter will plot off each village on the meridian line, according to the meridian and perpendicular distances given in columns 12 and 13 of the table.

VII

As each village is surveyed on the magnetic meridian, the whole series of villages can be plotted on a small scale, as they are respectively completed, on meridian lines parallel with the meridian of the first village, and thus a complete district map will be formed with scarcely any additional trouble.

VIII

While the circuit survey of the village is in progress or after its completion, the "Shankoo" measurer will measure the

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culturable numbers of the village, and, with the assistance of the Surveyor, will fix the position of his work by measured lines from the boundary already fixed by Theodolite.

IX

Assistants will be particularly careful in directing their Surveyors not to make any more stations in their circuits than are absolutely necessary. In a new jungle where boundaries have never yet been demarçated, it is a loss of time and money to make useless bends. When small bends which it is really necessary to lay down do exist, they can be laid down by offsets and insets from the boundary lines. But main lines from station to station are to be as long as possble.

X

The Surveyor will keep in his field-book a rough sketch of each boundary showing the offsets and insets taken on the main line.

XI

He will calculate the area of these offsets aad insets in square chains and links (deducting the latter from the former), and send it on to the Assistant with the field sheet, so as to enable the Assistant to add the area if from offsets, and to deduct it if from insets, to or from the total area as found by traverse.

XII

When the circuit map has been completed and the arable portion of the village has been measured by "shankoo" measurer, he will come to the Assistant's camp, and will, with the assistance of the plotter, plot on the fields in their proper position, which will have been already determined according to Rule VIII.

NOTE —It will be understood that the "shankoo" measurer will do this from the map of cultivated land prepared in the usual manner during the measurement of the cultivated portion of the village.

XIII

In the survey of most jungles, high hills intercept the view, and as in the traverse, such hills must be chained over, it is necessary to lay down rules for doing it in a uniform manner.

Tables of reduction are engraved on the vertical arc of Theodolites, which, while they show on one side the angle of elevation or depression, give on the other the number of units per hundred that must be deducted to reduce the hypotenuse to its corresponding base.

The following table for reducing links and decimals upon

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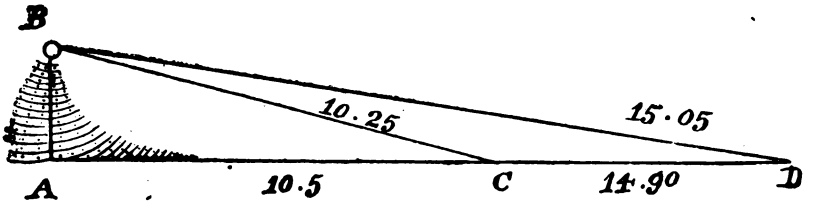
each chain's length, for the following angles of elevation and depression is to be observed when necessary;—

Angle	Reduction	Angle	Reduction	Angle	Reduction	Angle	Reduction
	Links Decimals		Links Decimals		Links Decimals		Links Decimals
3°	0·14	9°·0	1·24	14°·30′	3·18	20°·0	6·08
4°	0·25	9°·30′	1·38	15°·0	3·40	20°·30	6·33
5°	0·38	10°·0	1·52	15°·30′	3·64	...	...
6°	0·55	10°.30′	1·68	16°·0	3·88	...	...
	...	11°.0	1·84	16°·30′	4·12	...	...
6°·30′	0·65	11°·30′	2·01	17°·0	4·37	...	...
7°	0·75	12°·0	2·19	17°·30′	4·63	...	...
	...	12°·30′	2·36	18°·0	4·90	...	...
7°·30′	0·86	13°·0	2·56	18°·30′	5·17	...	...
8°	0·98	13°·30′	2·77	19°·0	5·44	...	...
8°·30′	1·10	14°·0	2·97	19°·30′	5·74	...	...

By this it will be observed that only six links have to be deducted from each chain's length for an angle of 20°.

In practice it is far better to reduce the discrepancy between hypotenuse and base line by allowing the angle of elevation from the station to the next at the top of a hill to be as small as can be, which is managed by making the back station at the bottom of the hill as far off as possible from the station at the top of the hill.

For example:—



The difference between the hypotenuse CB and base AC, in this figure, is 20 links in 10 chains, whereas the difference between the base AD and hypotenuse BD is only 15 links in 15 chains; so that, if possible, it would of course be better to make the back station at D instead of C.

However, nothing is more easy than to take angles of elevation and depression and reduce the hypotenuse to the base by the above table.

XIV

No measurement less than a link need ever be recorded in either the field-books or Traverse statements.

39. *Road tracing.*—Road tracing should be done by taking angles at every bend and chaining the distances between, taking offsets to all the important points, *e.g.*, village boundaries, village sites, tanks, rivers, large nallas, or any other remarkable natural or artificial objects.

When the road passes in more than one taluk, the trace

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ought to be taken a little distance beyond the boundaries so that at least two well recognizable objects are fixed in the next taluk.

40. Large "paramboke" numbers in villages should be measured by theodolite.

41. In all cases of survey by theodolite, the field work must be plotted with considerable care, showing all the stations used, and the plot sheets should be affixed to the measurer's field books so that they may form a permanent record for future reference.

42. The Assistant Superintendents in charge of Field Establishments should send their theodolites with stands, and instrument boxes to the Deputy Superintendent for inspection once a year.

43. *The Training of measurers in Theodolite Survey.*—A few measurers in each establishment, of proved ability and good conduct, should be taught the use of the theodolite, logarithms, and such of the elementary problems of Trigonometry as may enable them to obtain the sides and areas of triangles by calculation, and qualify them for the practical application of these attainments to the measurement of heights and distances.

When once grounded in Trigonometry, they should be taught the use of the theodolite; and in doing this, every effort should be directed to making them acquire a delicate touch in handling the instrument, without which they will never attain the degree of expertness in using it, necessary to an efficient surveyor. The chief points to be attended to are, never to use the upper plate clamp-screw, until the hairs of the telescope are brought upon the object to which the angle is to be taken, and then to turn the clamp no more than will suffice to prevent the upper plate slipping. By observing these precautions, a single turn or less of the tangent-screw will bring the hairs of the telescope exactly over the object being observed, and all danger of hurting this delicate screw be avoided. But on the other hand, if the clamp-screw be made to bite too strongly, or before the hairs of the telescope are brought sufficiently near to the object being observed, too great a strain will be brought upon the thread of the tangent-screw, which will thus most probably suffer injury, and the screw itself, if frequently so treated would soon cease to act and become useless by the thread being destroyed. The best method of teaching beginners however, and of ensuring their acquiring sufficient delicacy of touch in using the theodolite, is not to permit them for some time to make any use whatever of the tangent-screw; but to require them to bring the hairs of the telescope accurately into position by the hand alone, and then cautiously and lightly to fix the upper plate by means of the clamp-screw, without occasioning any change in the position of the hairs. This will require care and nicety to accomplish, which are the very requirements most necessary to be inculcated, and it is only after

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the learner has become an adept in handling the instrument in this way, that the use of the tangent-screws should be explained to him. In this way an intelligent measurer would acquire in the course of a very few lessons a considerable degree of expertness in the use of the theodolite, which after practice in the field would suffice to perfect.

After the measurers have become familiar with the theodolite, they should be made to survey a few plots of ground by taking forward angles and chaining right round the boundary, so as to close in at the first station, as this is the way in which they will probably have most occasion to use the instrument hereafter. The methods of surveying by the back angle and compass should both be explained to them; but the former should be preferred as the more correct, whenever lines for chaining of any considerable length can be obtained. In some cases as in thick jungle or in laying down a town or village with crooked streets, when it may frequently be impossible to take the forward angles to objects distant more than a few paces, it would generally be better to survey by the Compass. While making the circuit of the boundary as above mentioned, the men should be shown how to fix the positions of objects on either side of the chained line, such as prominent hills, bends of nallas, which may be useful in assisting them to sketch in with accuracy the features of the ground to be included in the map. During this survey they would also learn the method of keeping a field-book.

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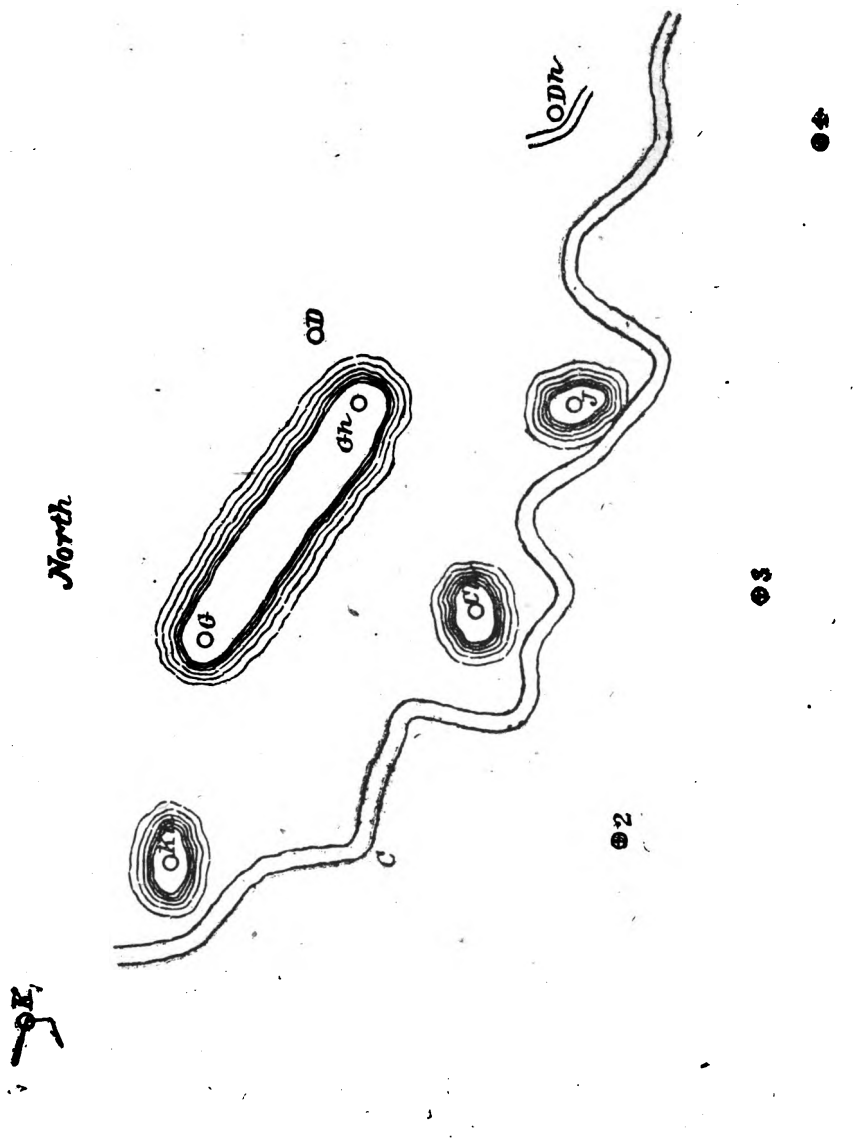
Form referred to in Chapter X

Form N°1



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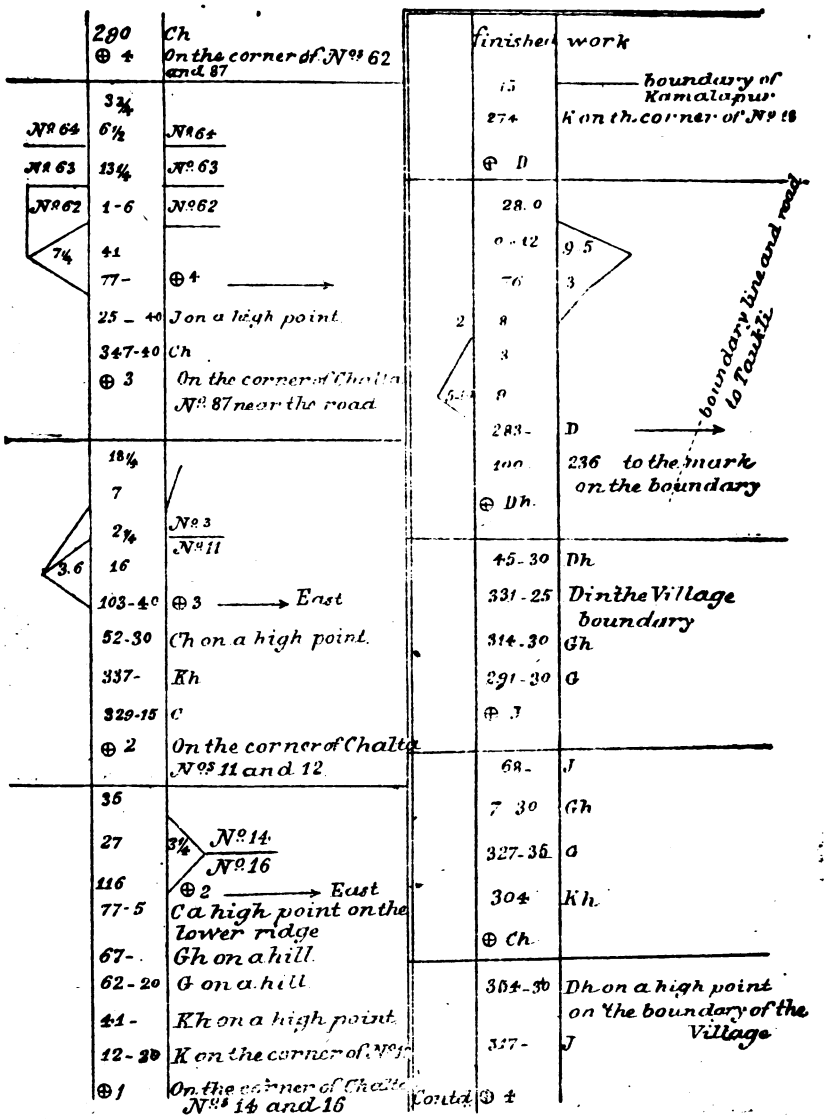
Form No 1 contd


290 Ch
⊕ 4 On the corner of Nos 62 and 87
3¾
№ 64 6½ № 64
№ 63 13¼ № 63
№ 62 1-6 № 62
7¼ 41
77- ⊕ 4
25 - 40 J on a high point
347-40 Ch
⊕ 3 On the corner of Chalta № 87 near the road
18¼
7
2¼ № 3 / № 11
3.6 16
103-40 ⊕ 3 East
52-30 Ch on a high point
337- Kh
329-15 C
⊕ 2 On the corner of Chalta Nos 11 and 12
36
27 ¾ № 14 / № 16
116 ⊕ 2 East
77-5 Ca high point on the lower ridge
67- Gh on a hill
62-20 G on a hill
41- Kh on a high point
12-30 K on the corner of No 1
⊕ 1 On the corner of Chalta Nos 14 and 16
finished work
15 boundary of Kamalapur
274 K on th. corner of No 18
⊕ D
28. 0
0 - 12 9 5
7-6 3
2 8
3
5-4 0
283- D boundary line and road to Taukir
100 236 to the mark on the boundary
⊕ Dh.
45-30 Dh
331-25 Din the Village boundary
314-30 Gh
291-30 G
⊕ J
68- J
7 30 Gh
327-35 G
304 Kh
⊕ Ch.
364-30 Dh on a high point on the boundary of the Village
317- J
Contd ⊕ 4

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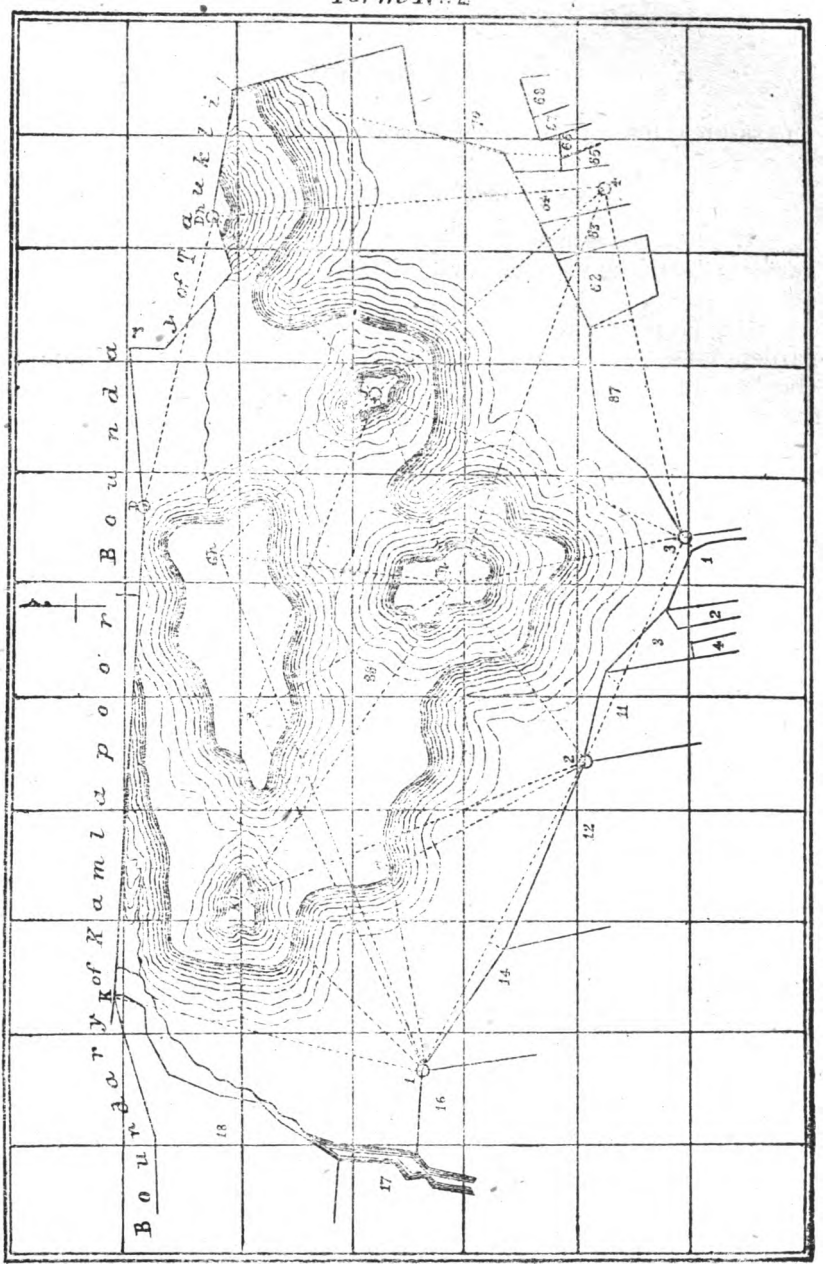
Form № 2



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CHAPTER XI.

Classification of dry, wet and garden Survey Numbers.

(*a*) Classification of Soil.

1. Every description of culturable land, whether dry, rice or garden, should be classified with reference to soil, water facilities and position.

Dry crop land is classed for soil only. Wet and *patastal* garden lands are subjected to the soil and water classification. Gardens dependent or not dependent upon wells, or situated in the atchkat of a good tank, channel or other source of irrigation are classed for soil only and particulars regarding the source of irrigation or moisture are noted in detail.

2. As the various descriptions of soil differ from each other in their productive capabilities, it is necessary, in order to ascertain their relative values, to reduce them to classes.

3. There are numerous varieties of soil, distinguished amongst the cultivators by different names; but, as many of these differ little in fertility, there is no necessity to have a separate class for each variety. It will be sufficient to divide the whole into a limited number of classes; their relative productive capabilities being estimated by depth and characteristic ingredients. In accordance with this, the following Rules have been drawn up, to show how the soils should be classified:—

(1) Soil which has some deteriorating ingredient, is, in consequence of that ingredient, less fertile than pure soil of the same depth, and should therefore be placed in a lower class than it. The deteriorating ingredients of soils are numerous; but only those entered in the following table are to be taken into consideration; and they should be represented in the Classer's book by the conventional marks shown in the column of marks.

Conventional Marks	Deteriorating Ingredients, by which the Fertility of Soil is reduced
∴	"Choon Kud"—A mixture of minute fragments or nodules of limestone.
>	"Gochu."—The same as the above, only that the nodules are larger.

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Conventional Marks	Deteriorating Ingredients, by which the Fertility of Soil is reduced
/	"Ooturwut."—Sloping surface.
V	"Walsur."—A mixture of sand.
×	"Reswut."—Want of cohesion among the constituent particles of the soil, arising from the presence of fine sand.
~	"Doopun."—Liable to be swept over by running water.
□	"Oopulwut."—Excess of moisture from surface springs.
Λ	"Kurrul."—Clayey soil, which when dry turns very hard, which does not easily absorb water, and which if once wetted does not dry soon. It is sometimes so bad that even grass will not grow on it. In this case it should be entered as "Parampok', unculturable).
∵	Choulu.

(2) It is only when the fertility of soil is reduced, by the presence of one of the deteriorating ingredients mentioned in Rule 1, that the soil is to be placed in a lower class than it otherwise would be; if the fertility is not reduced, the ingredient is not to be taken into consideration; but if, in consequence of the presence, in a moderate degree, of two of the ingredients alluded to, it should seem necessary to enter the soil in a lower class than it otherwise would be, it may be done. In this case the marks of the respective ingredients should be made in the Classer's book.

(3) When in consequence of one deteriorating ingredient, soil is reduced one class, then one mark should be shown in the Classer's book; but when, in consequence of the presence of two or more such ingredients, it is necessary to reduce it two or more classes, the respective marks of all these ingredients should be shown.

(4) Pure soil should be entered in the class to which it belongs, according to the depths shown in the following table;

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and 1st, 2nd, or 3rd, written, to show to which of the orders it belongs.

Classes	Relative Value of Class, in annas of a Rupee	Soils of the		
		1st Order	2nd Order	3rd Order
		Of a fine uniform texture, varying in colour from deep black to dark brown	Of uniform but coarser texture than the preceding, and lighter also in colour, which is generally red	Of coarse gravelly or loose friable texture, and colour varying from light brown to grey
1	2	3	4	5
1	16	1¾	...	...
2	14	1½	1¾	...
3	12	1¼	1½	...
4	10½	1	1¼	...
5	9	¾	1	...
6	7	½	¾	1
7	5½	...	½	¾
8	4	...	¼	½
9	2½	...	...	¼

(5) On proceeding to class the soil of a "Number," a correct outline of it should be drawn in the field book, and it should be divided into a number of equal compartments, with reference to its extent in acres. A spot in each of these compartments, at which the average quality of its soil can be ascertained, is then to be selected, the soil dug up, and a crow-bar driven in until it is obstructed by rock, or some hard substratum, or, if the soil is deep, to 1¾ cubits. The depth of the soil, as well as the mark of any deteriorating ingredient which may be seen, and the order to which the soil belongs, should then be entered, according to the Form given below, in each compartment, and from these its class should be noted down. After all the compartments have been thus classed, the average value of the "Number," in annas, should be found, by multiplying the number of compartments, or shares, which have been put into each class, by the value in annas for one such share, and dividing the

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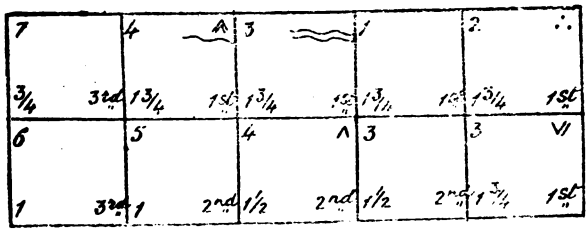
sum of these values by the sum of the shares. This will show the relative fertility of the "Number."

Example.



In the right-hand corner, at the bottom of this example, 1st is entered, to show that the share belongs to the first order; and $1\frac{3}{4}$ is entered to show the depth of the soil. This depth and order indicate the first class; but as there are two deteriorating ingredients, *viz.* "Ooturwut" and "Walsur," which reduce the fertility of the soil, the marks for them are shown, and the share reduced two classes, and put into the 3rd class, which is represented by the figure 3. The same method of classifying is observed throughout, and will at once become familiar by going through the whole of the shares.

(6) When, in consequence of soil possessing some advantage, it appears necessary to enter it in a higher class than is indicated by the depth mentioned in the table, it may be so entered; but a remark should be made in the Classer's book, plainly showing the reason for so doing.

(7) Soil along the banks of a large river is often much increased in fertility in consequence of the river flowing over it during the rains. When this is the case, the soil should be entered one or two classes higher than it otherwise would be; and a figure written in its compartment, on the right-hand side of that which denotes its class, to show how many classes it has been raised. Thus—

				Class	Shares	Annas
3·2		1·2		1·2	1	20
$1\frac{1}{4}$	1st.	$1\frac{3}{4}$	1st.	3·2	1	16

When the first and second classes are raised two classes, according to this Rule, their value in annas goes above 16; that is, if the first class is raised two classes, its value becomes 20 annas, and if the second class is raised in like manner, its value becomes 18 annas; as also does that of the first class when raised one class. The value of the other classes, when thus raised, does not go beyond the limit of 16 annas; still they are to have the increased valuation, in the same manner as the first and second classes. It sometimes, however, happens, that so far from the fertility of soil being increased in consequence of a river

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flowing over it, that its surface is washed away by the force of the water, and its fertility diminished. In this case, the soil should not be entered in a higher class, but reduced to a lower, and the mark of "Liability to be swept over by running water" entered, to show the reason for such reduction. In short, it is only when the fertility of soil is actually increased, in consequence of water flowing over it, that it should be entered in a higher class than it otherwise would be.

(8) When an error occurs in making a mark, to show the cause of diminished fertility, a line should not be drawn across or under the incorrect mark, (for fear that such line might be considered as part of the mark itself,) but round it, and the correct mark shown below, thus

(9) Every description of culturable land, whether dry crop, rice, or garden, should be classed according to the above Rules; but "Excess of moisture from surface springs" is not to be considered a deteriorating influence in the case of rice land. In its case, the influence of surface springs will be taken into consideration in classing the supply of water.

(10) When dry crop, rice, and garden produce are all cultivated in one "Number," the soil for each should be classified, and the shares, and value in annas of each, entered separately in the Classer's book.

(b) Classification of water.

i. Rice lands.

4. To estimate the supply of water to rice cultivation, the various degrees in which water is supplied are reduced to six classes, as follows:—

1st Class.

1. When water is conveyed by means of a Pat (artificial water-course) from a good tank, or river, or nulla, which yields a plentiful supply till the end of March or April, and when, in consequence of the soil irrigated being in a low situation, it continues sufficiently moist to admit of the better kinds of sugarcane being grown every second or third year, without any fear of a deficiency of water, then the supply should be entered in the 1st Class.

2nd Class.

2. When the water is supplied by means of a Pat, from a good tank, or river, or nulla, in the same manner as is shown

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in the foregoing class, but, in consequence of the soil irrigated being in rather an elevated situation, it does not retain so much moisture as that alluded to in the foregoing paragraph, and will not, therefore, produce with certainty a superior crop of sugar-cane, but will produce a second rate one, then the supply of water should be entered in the 2nd Class.

3rd Class.

3. The following two paragraphs define the 3rd Class :—

1. When the supply of water is the same as in the 1st and 2nd Classes, but the soil irrigated is elevated; or when the soil is not elevated, but the supply of water does not continue after the end of December, or January, and consequently, in either case, sugar-cane can only be grown when the rains are very favourable.
2. When water is not conveyed by a Pat from a tank, river, or nulla; but, in consequence of the soil being in a very low situation, a sugar-cane crop can be grown when the rains are favourable.

4th Class.

4. When there is a supply of water from a tank, or river or nulla, but not sufficient for sugar-cane, in consequence of the soil irrigated being in an elevated situation; or when the soil is in a low situation, but without capabilities of irrigation from a tank, or river, or nulla, and therefore not adapted for sugar-cane, but in both cases possessing sufficient moisture to admit of a rice and an after green crop being grown in one season; or if an after crop, in consequence of some defect in the soil, cannot be raised, but yet the moisture is sufficient to produce an excellent rice crop, then the supply of water should be entered in the 4th Class. In some places, in the hilly country bordering on the Ghats, two rice crops are raised in the same soil in one season; and in such cases it may appear necessary to raise the supply of water above the 4th Class. To this there is no objection; but a remark should be made in the Classer's book, showing the reason for so raising the Class.

5th Class.

5. When the supply is the same as in the last Class, but no after crop can be raised, in consequence of the land lying high, or when the supply of water is insufficient for an after crop, owing to its being taken from a small tank, or from a channel cut to convey the rain water falling on slopes, and owing to these circumstances rather frequent falls of rain during the monsoon are required to ensure a middling rice crop, then the supply should be entered in the 5th Class.

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6th Class.

6. When the land is in an elevated situation, and the water is not supplied from a tank, or river, or nulla, but is wholly dependent on the fall of rain, so that any deficiency in this would cause the soil and crop to dry up, then the supply should be entered in the 6th Class.

5. The supply of water should always be entered in one or other of the foregoing six Classes; but in the case of "Numbers" below a large tank, to which the supply is so great that the crop is liable to be injured by "an excess of moisture," it should not be entered, as it otherwise would be, in the 1st or 2nd Class, but in such lower Class as may correspond most nearly with the quality of the crop produced by it; and in this case, the number of Classes lowered, as well as the Class in which it is to be entered, should be shown, the former by one or more conventional marks for "Oopulwut" being entered in the compartment which represents the soil subject to this deteriorating influence, and the latter by a figure written close to them. Thus, in the following example two marks are made for the deteriorating influence of "Oopulwut"; and the supply of water, which, in consequence of being abundant, would be entered in the 1st Class, is reduced to the 3rd, and represented by the figure 3.

2	V
1st	□
$1\frac{3}{4}$	□3

In short, the supply of water should be estimated with reference to its usefulness to the crop; and the figure denoting its Class is always to be entered on the right-hand side, at the bottom of each compartment.

6. After having classed the supply of water according to the foregoing Rules, remarks as noted in the Form of the Classer's book, and appended to Chapter XII should be written, showing from whence the water comes, and whether there is a sugar-cane crop growing in the land irrigated at the time of classing it. The remarks should be written in accordance with any of the following which may be applicable:—

1. The water is conveyed by a Pat, from a tank in Revenue Survey "Number."

2. The water is conveyed by a Pat, from high ground.

3. The water comes from high ground, but is not conveyed by a Pat.

4. A dam is built across the river, or nulla near Revenue Survey "Number" ; and the water is conveyed by a Pat from that place.

5. It is usual to raise sugar-cane crop in the "Number," and there is at present acres guntas of large

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(or small) cane growing in it. (Should there be no cane growing, the remark should be to that effect).

ii. Garden lands.

7. Gardens are of the following classes:—

(1) Those irrigated from tanks or other works of irrigation

(2) Those irrigated solely from wells.

(3) Those perfectly independent of any tank or other irrigation works, *e. g.*, dry cocoanut or Wat Hukum Bagayet.

[*N. B.—Salesal and Wat Hukum garden.*—When ordinary garden and "Wat Hukum" garden occur in the same survey number, description of both should appear in the Bagayet takta, one immediately below the other, and not in separate parts of the Bagayet takta, as has hitherto been the practice.]

8. The supply of water to garden cultivation should be entered according to the following Rules.

(1)

(1) When garden cultivation is supplied, wholly or in part, with water conveyed by a Pat from a tank, or nulla, or river, the supply should be classed as follows:—

(i)

The supply of water to purely Patasthal Bagait should be classed in the same manner as if the field were cultivated with rice, and supplied with water by a Pat; but care must be taken that the 6th rice class is never entered for garden cultivation, because it does not relate to water conveyed by a Pat.

(ii)

When garden cultivation is irrigated both from a well and Pat, care should be taken, in classing the supply of water for each share from the Pat, according to the Rules for rice land, not to include the supply from the well. The latter should be classed separately.

(iii)

In classing purely Patasthal Bagayet lands, remarks regarding the extent under each variety of crop, the rotation of crops, and the number of trees should be entered in the manner prescribed in clauses 6 and 8 of the clauses for the classification of Motasthal Bagayet.

(iv)

Remarks on the following points, relative to the Pat, should also be written in the case of "Numbers" containing purely Patasthal Bagayet or of Bagayet "Numbers" irrigated

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partly by means of a Pat and partly by means of a "Mot" (water bag) :—

1. The month up to which the supply of water conveyed by the Pat usually lasts, and whether or not any garden crop is afterwards reared by means of water from a well, should be mentioned with reference to past usage.
2. The average sum it costs the "Karda" of the "Number" every year, to repair the Pat and dam, should be mentioned.

(v)

In supari gardens, where the moisture is contained in the ground, and not obtained from water running on the surface, a *magadur* water class should be given according to capabilities; but this applies to Malnad tracts only.

(2) In the case of Motasthal Bagayet Numbers, *i. e.*, those that contain either a well or a *budki*, the following information should be given :—

1. The name of the person who sunk the well, and when it was sunk by him; whether he, or his heirs, are still in possession of it; and if they are not, the name of the person who is.
2. The manner in which the well is built up, and the number of Mots capable of being drawn from the Tharola.
3. The depth in yards of the well, from the lower roller of the frame-work of the Mot to the surface of the water; and from thence to the bottom; and the length and breadth of the surface of the water.
4. As it will be difficult to make the above measurements correctly after the well has been worked, they should be made in the morning; and if the well is being worked at the time, mention should be made of the number of hours it has been worked previously to the time of measurement.
5. Whether the water is sweet or brackish; what kind of a spring it has, and the direction from which it comes.
6. The land appropriated to each kind of crop, during the current season, should be measured separately, and entered; and in case there be cocoanut, supari, mango, or jack trees in the "Number," they should be counted, and the number of each kind entered correctly. Supari and cocoanut trees must be entered under three classes, *viz.*, large, medium and small, according to their size as defined belew :—

(i) *Large.*—All trees in bearing.

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(ii) *Medium.*—All trees likely to bear within a year.
(iii) *Small.*—All other trees.

7. If other "Numbers" have a right to be supplied, and are supplied with water from the well, this should be mentioned, as also the share each "Number" has out of the whole supply.
8. Full details should be entered as to whether the same soil is cultivated with garden crops every year, or whether different parts of the "Number" are so cultivated in rotation.
9. The extent of land irrigated in each "Number" should be mentioned; and if the "Number" has any dry crop soil, which could, exclusive of the extent entered as Bagayet, be irrigated, the extent of it should also be mentioned.
10. The names of the persons from whom the information contained in paragraphs 1, 4, 7, 8 and 9, is obtained should be mentioned.

Remarks supplying the foregoing information are always to be entered for "Numbers" containing Motasthal Bagayet, whether the water for irrigation be drawn by a Mot or thrown up by means of a basket, or obtained from the well or excavation in any other way.

9. The distance in miles of the centre of each "Number" from the centre of the Village, should be taken off the Map, and entered in the Classer's book, each day, as the "Numbers" are classified; and in case the Village has a dependent hamlet, the distances of the "Numbers" cultivated by the raiyats living in it should be taken, both from the Village and the hamlet, and entries made accordingly.

The distances of lands in *bechirak* villages should be calculated from the centre of the nearest populated village, whether the cultivating raiyats are residing there or not.

In the case of lands under channels, the distance should be calculated from the villages where the cultivating raiyats reside.

In the Malnad, when the raiyat's house is situated in his holding, the survey number should be shown in the Classer's register as *Lagat* irrespective of its distance from the village.

10. A remark, should be made in the Classer's book for each "Number," showing its distance in miles from the place at which the cattle are watered, from the end of February to the commencement of the rainy season.

1. Should the watering-place be within a quarter of a mile of the Village, the distance of the "Number" from the Village, as entered according to the above para, should be entered; but when the Village is uninhabited, the distance of the place at which the cattle are watered should be entered for all cultivated "Numbers," and no remark made for waste "Numbers."

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2. When the watering place is not near the Village, and there is no well in the "Number," the distance of the latter from the place at which the cattle are watered, from the end of February to the commencement of the rains, should be entered. If there is more than one watering place, the distance to the nearest should be entered, but if the Village is uninhabited, the directions given in the last paragraph should be attended to.

3. Should there be no water near the Village site, those "Numbers" which have wells in them should have a remark, to the effect that the cattle are watered at these wells; but in case the cattle from other "Numbers," although having no right are watered at these wells, the distance from the well should not be entered for those "Numbers"; and in regard to deserted Villages, the directions in paragraph 1 should be attended to.

11. Remarks should be made for each "Number," showing whether the Measurer has measured it correctly, whether the sketch of it agrees with the measurements, whether the nallas, roads, temples, and trees, etc., which are in it are inserted; and whether it has, in every respect, been entered satisfactorily. The following paragraphs contain directions regarding the manner in which these remarks should be written:—

1. If an error in the sketch of the Measurer's book is discovered, which does not exceed one chain, it is not to be noted; but if the error is more than a chain, the "Number" should be measured, and if actually wrong, a correction in pencil should be made in the sketch of boundary marks, and a remark in full written in the Classer's book, pointing out the Measurer's error.

2. If the Measurer has included a piece of culturable land, situated along the bank of a nalla or river, of less than half an acre in extent, in unculturable soil, it should not be considered an error, but if he has included a larger piece, it should be measured, and shown in the Measurer's sketch of boundary marks, and in the map; and a sketch of the piece so measured should be drawn, and the measurements written in full in the Classer's book.

3. If, while classing a "Number," its extent appear greater or less than that entered in the Measurer's book, the computation should be examined; and if found incorrect, it should be corrected in pencil in the Measurer's book, and the acres, according to the correction, entered in the Classer's books, and a remark made to the effect that the Measurer's computation was wrong.

4. If, when classing a "Number," the tenure, or the name of an "Inamdar," or the name of the person cultivating an Inam, or the name of a "Karda," or any other entry made by the Measurer, in his book, is found different from the existing state of matters, the Classer should, after fully satisfying himself from the records of the village that the Measurer's entry

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is not correct, make a correct one in his own book, and write a remark showing the Measurer's mistake. But should the difference between the entry in the Measurer's book and the existing state of matters arise from any change which has taken place since the "Number" was measured, then no blame should be attached to the Measurer, and the remark relative to the difference should show that it is not owing to any fault of his.

5. If there are more trees in a "Number" than the Measurer has shown in his sketch, it is not to be considered an error, but should there be two or more trees, and the Measurer not have shown any, this should be considered an error, and the trees should be entered by the Classer in the sketch of boundary marks, and in the map; a remark should also be made in the Classer's book, to the effect that there are about so many trees in the "Number."

6. If there should be a temple, or house, or well, etc., in a "Number," and the Measurer not have shown it at all, or not have shown it in its proper place, a remark, showing this inaccuracy, should be written in the Classer's book, and the temple, or whatever it may be, should be shown in ink in its proper place, in the compartment of the Classer's sketch in which it is situated; and in pencil in the Measurer's sketch of boundary-marks, and in the map.

7. If a road, or nalla, sufficiently large to be shown in the map, passes through a "Number," and the Measurer has not shown it, distances should be taken from the nearest corners or bends of the "Number" to the places at which the road or nalla crosses its boundary lines, and these distances should be written in ink, in the Classer's sketch of the "Number," and the nalla or road shown in it; and the same should be done in pencil in the Measurer's boundary mark sketch, and in the map.

When mistakes of the above or any other description are found in the Measurer's work, the Classer, after having fully satisfied himself that they do actually exist, should make remarks to that effect, but his remarks should be so full and distinct that no difficulty or doubt will afterwards arise in correcting the mistakes.

12. The copy of the map, whether rough or fair, with which the Classer is provided, should be examined by him in the same manner as the Measurer's book, but inasmuch as it is constructed from his book, there is no necessity to make separate remarks of errors in it, which are common to both. In this case, all that is required is a remark to say that it should be corrected, according to the remark entered for the correction required to the Measurer's book: but in case an error is discovered in the map, which is not in the Measurer's book, then a remark in full should be made regarding it, and the map corrected according to measurement, in pencil.

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13. If the extent of unculturable land which the Measurer has deducted is correct, a remark to that effect should be written; but if it should not appear correct, in order to leave no doubt about this, the land must be measured. No alteration, however, should be made in the Measurer's entry of unculturable land when the difference between it and the Classer's measurement of it does not exceed 10 per cent; when it does, the Classer's measurement should be entered, and the measurements shown in the remark regarding unculturable land in his book. In case there should be unculturable land which the Measurer has not deducted at all, it should be measured, and entered in full, as above directed, in the Classer's book; but if it consists of little pieces, difficult to measure, it should be carefully estimated, and deducted without being measured, and entered accordingly.

14. The boundary mounds and stones should all be examined, in order to see if they correspond with the entries in the Measurer's book, and with the Rules, and a remark written accordingly. In doing this, in case any of the marks are found out of repair, or, although agreeing with the entries in the Measurer's book, not to correspond with the Rules, or, although erected in accordance with the Rules, not to correspond with the Measurer's entries, then directions should be given in writing to the Patel and Shanbhog to have those mounds or stones which are out of repair put in order, and those which are entirely wanting erected, and those which, from not having been put up in their proper places, or from being above the number required by the Rules, are not necessary, thrown down. In this case, a remark should be written regarding these marks in the Classer's book, and mention made of them in the daily report to the Ass stant Superintendent; and when they have been all rectified, they should, before the Classer leaves the village, be inspected by him, and the date of inspection entered under the remark.

15. All tanks, whether measured as separate Revenue Survey "Numbers," or included in "Numbers," should have remarks of the following description written for them in the Classer's book:—

1. Whence the supply of water to the tank comes, *viz.*, whether from the grounds above it, or from a nalla, or from a river, conveyed by means of a Kalve (water-course).

2. Whether or not the tank is filled with mud; how long since it was excavated or built up, and by whom.

3. Mention should be made in full, as to whether the dam across the lower part of the tank is simply of earth, or of earth and stone combined; whether or not the tank has a sluice for drawing off the water for irrigation, and if so, of what materials it is built, and whether it is in good repair or not; and in case the tank has no sluice, how the water is conveyed from it.

4. After the tank is once filled, should there occur a

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break in the weather during the rains, for how long after the commencement of the break does the supply of water suffice for irrigating the rice fields below it.

5. The month up to which the water lasts in the tank after the close of the rains.

These remarks should be written for tanks which form portions of "Numbers," just below the entries of classification; and to tanks which form entire "Numbers," in the place shown in Form No. 1 appended to Chapter XII.

16. *Standard of classification.*—Classing Assistants should before commencing operations in a new district, assemble 5 or 6 classers at a time and class with them for one or two days in order to see that each man has a proper standard of classification both as regards soil and water. While testing a village, the classer's proficiency may be examined by making him work along side of him during the whole morning, noting the result in his test book, to be eventually entered, after returning home, in a book specially kept for the purpose.

17. *Boundaries of fields not to be changed without sanction.*—Classers should not be permitted to change the boundaries of fields during classification without special orders from the Assistant in charge.

18. *Pot kharab allowed by classers to be explained.*—When classers allow pot kharab in addition to that given by the measurers, they must specify what the *kharab* is for, and show in their field books by appropriate symbols in what compartment the *kharab* exists.

19. *Classification report.*—On completion of the classification of every Taluk, the classing Assistant will submit a general report embodying the result of the observations he has made whilst employed in the taluk. This report should be submitted as soon as the classification is completed and should not be allowed to stand till the following rains.

20. *Classing Wut Hukums to be submitted to the Superintendent for inspection.*—All Wut Hukums intended to be given to the classers relating to matters connected with classification, should be submitted to the Superintendent for approval.

21. *Classification of sandy soils.*—Where there is a mixture of soil and sand and a depth of three-fourth cubit, such land should be put in the sixth class.

22. *Classification of land cultivated with groundnut.*—When groundnut crop is raised without irrigation, the land should be classed as dry.

23. *Classification of Casurina topes.*—Dry crop soils should not be treated as garden simply because casurina is planted thereon. Garden and rice lands must not likewise be considered as dry, simply because the occupant chooses to plant Casurina thereon.

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24. *Classification of Coffee lands.*—Coffee lands should be treated as kharab during classification but they should be distinguished from other kharab lands by noting the word "Coffee" against each survey number in the classification Register. The total Coffee Survey Numbers and area should also be shown. Details of Government and Inam Coffee Numbers should also be noted in the Register below Survey No. in column 1.

25. *Classification of Amrut Mahal Kavals.*—A detailed classification of Amrut Mahal kavals is not necessary. A brief record of the general quality of the soil, the existence or absence of Forest or other trees, the general value of the kaval as a grazing ground during the hot and cold seasons and any other useful information should be embodied in the Field book.

26. *Classification of dry lands inundated by streams.*—Dry lands situated on the banks of streams, etc., shall have the soil classification raised as follows:—

Two annas in the case of sixth class of soil and upwards.
One anna in the case of sixth to seventh class of soil.

27. *Position class to be assigned for dry crop land.*—In the case of dry crop lands in low situations, a position class of two annas is assigned in addition to the ordinary soil classification. Besides the land being low, if it is evident that water could be tapped within ten feet of the surface, then the additional position class is valued at four annas.

28. *Classification of land cultivated with sugarcane aided by gundies or earthen wells.*—When, for sugarcane cultivation, the tank supply of water is aided by that obtained from holes (*gundies*) of a temporary nature, the land must be classed as rice land and not as garden. But permanent *gundies* or earthen wells used for irrigation should be taken into consideration,

(i) either by treating the survey numbers with such *gundies* as garden and entering them in the bayaget taktas, or

(ii) by showing them as rice slightly raising the water class; in either case the *gundi ahawal* has to be written in the classer's book.

29. *Classification of land cultivated with black rice.*—Unirrigated lands in which black rice is the only sort of rice grown should be classed as dry crop, applying position class where necessary. If, however, black rice is found in terraced lands, it is evident that in good seasons superior sorts of rice are produced. Such lands should be treated as rice.

30. *Classification of rice or sugarcane cultivation irrigated from wells in tank beds.*—In cases of rice or sugarcane cultivation irrigated from wells in the bed of a tank after the tank supply fails, the lands should be classed as wet, the water class being raised by six pies or even an anna according to circumstances.

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CHAPTER XII.

Classification Field Books and Records.

Classification field books to be written in ink in the field.—The Classers will be furnished with field books for entering the classification particulars, the leaves of which will be either signed or stamped by the Assistant Superintendent. The book should always be taken to the field by the Classer and all the entries except those connected with measurements should be made in it at the time the soil is being classified. Measurements should in the first place be noted on a separate piece of paper but as soon as it is seen that they should be entered in the Classer's book and no delay should take place in doing so. The practice of making the entries in pencil in the compartments into which the sketch of the number is divided and afterwards in ink on returning from the field should never be adopted. These entries must be made at once in ink.

2. *Daily diary to be written on the second page.*—The first leaf of the Classer's book should be left blank, and on the second a diary of work should be kept, according to the form given in paragraph 14 of Chapter VI which should be filled up daily.

3. *Names of persons present to be noted in Classer's Field book.*—The names of the Patel, Shanbhog, Karda, Inamdar, and whoever may be present with the Classer in the fields, should be entered in the Classer's book, in the same way as they are to be entered in the measurer's field book referred to in Chapter VI.

4. *Remarks to be noted in the Field book.*—After noting the descriptive particulars and classification values as indicated in the appended sample forms, the following remarks should be noted under each survey number:—

(i) Distance of the number from the village.

(ii) Whether the sketches and other particulars are properly noted in the Measuring books.

(iii) Particulars regarding the correctness or otherwise of the map.

(iv) Particulars regarding the correctness or otherwise of *pot kharab* granted during measurement or allowed during classification.

(v) Correctness or otherwise regarding boundary marks put up during measurement.

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(vi) Action taken to correct errors, if any, regarding boundary marks.

NOTE.--Remarks relating to columns (ii), (iii), (v) and (vi) should be written only when there are any entries to be noted, otherwise, the columns may be left blank.

5. *Supplementary remarks regarding rice and garden lands to be noted.*—Besides noting the remarks under the above rule, supplementary particulars regarding rice land, Pat bagayet and Mot bagayet have to be entered as indicated in this Chapter.

6. *Hulgaval lands how treated.*—Hulgaval lands must be entered in registers as waste, and the name of the Pattedar, if there be one, shown in the Classer's field book.

7. *Area of waste portions to be shown.*—While classing dry crop lands, partly cultivated and partly lying waste, the classers should show in their books, the approximate area of waste if it appears to be above an acre.

8. *Lands above or below channels to be noted.*—In villages, having irrigation channels, details of dry, rice and garden should separately be shown both above and below them, a note to that effect being clearly made near the sketch in the classer's field books.

9. *Channel lands to be noted in the Classing Registers.*—In the case of all the lands situated under channels, a note to that effect should be made in the Classing Registers against each survey number.

10. Three separate forms, headed Nos. 2, 3 and 4 are appended to this Chapter. The mistakes in each village found in the Measurer's book, the boundary marks, and map, should be entered in statements made according to these Forms; and these statements should be sent to the Assistant Superintendent with the other papers of the village.

11. After having classed the soil of all the Motasthal Bagayet numbers, a statement of the comparative supply of water in the several wells should be made according to the following Form. In this statement the well which has the largest supply of water, and from which most land is irrigated, should be entered first. The next best well should be entered second; and so on in order, to the well which has the least supply of water, and from which least land is irrigated, which should be entered last. In case the supply of water of two or more wells in a village is equal, they should be entered under the same number in the series, and in making this statement, the opinions of the Patel, and Shanbhog, and raiyats of the village should be obtained, in regard to each well; but the Classer is not to allow these opinions to supersede his own judgment. He is to make the entries required in the statement according to what he himself may think right.

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Statement of the Comparative Supply of Water in the Wells of Mowjeh Taluk District

No. of the Well, according to the supply of Water	Revenue Survey No. in which the Well is situated	In case there are two or more Wells in the "No." which one is alluded to	No. of the Well, according to the supply of Water	Revenue Survey "No." in which the Well is situated	In case there are two or more Wells in the "No." which one is alluded to
1	2	3	1	2	3
1	75 104	That to the N. side.	3 4	75 101	That to the S. side.
2	110 120	That to the S. side.	5	120	That to the N. side.

12. A statement regarding garden land, according to Form No. 5, appended to this Chapter should be made from the information contained in the Classer's book. The entries should be made in it on returning to the village, immediately after each Number which is to be entered has been classified; and should it then be found that some information necessary to the preparation of the statement has been omitted in the entries in the Classer's book, such information should immediately be obtained, and entered in it, and also in the statement. And if, in consequence of the supply of water being very small, or having latterly entirely failed, a Bagayet Number has not been classed as garden land, but as dry crop soil, the extent and average value of it should be entered in the statement, in their respective columns; and in that for remarks, the reason for having classed the land as dry crop should be written.

13. *Particulars to be noted in Bagayet taktas.*—The following points should be noted in the preparation of *Bagayet taktas* :—

1. All the entries should be clear and legible and in Kannada.

2. When there is no direct *pat* supply, *magadur* water class should be noted in the column of remarks and underlined.

3. Position class, if any, should also be noted in the column of remarks and underlined.

4. The Assistant has to note in English on the facing sheet :—

(*a*) general position,
(*b*) style of cultivation,
(*c*) general appearance, thriving or neglected, with the cause of the latter, if known, and
(*d*) any other remarks which serve as a guide in fixing the assessment.

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14. *Distance of water in wells.*—Classing officers are to pay particular attention to the entries in column 5 of the *Bagayet taktas*, the distance of water from the surface being a very material point in fixing the assessment on well gardens.

15. *Bagayet taktas in Inam villages.*—While preparing Bagayet taktas for Inam villages, care should be taken not to include under waste, lands on which Bagayet crops are standing. Only such lands as are lying fallow, yielding nothing to the Inamdar, should be entered as waste or *bilu*.

16. *Position class in mot gardens.*—A Position class is recorded against well-watered garden lands in the last column of Bagayet taktas when they receive indirect benefit from tanks, or low lying situation, 1st or 2nd class position being assigned in accordance with the benefit received.

17. As soon as the classification of the village is completed, the Classer's books, Measurer's books, map, and other documents prepared, should immediately be sent to the Assistant Superintendent.

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FORMS REFERRED TO IN CHAPTER XII.

FORM NO. 1.

Classer's Book of Mowjeh in the Taluk of the District

January 10th 1851. Monday.—Persons present while classifying in the field:—

1. Soman Gowda *bin* Sungappa, Patel.
1. Bhimrow Bapooji, Shanbhog.
1. Sangan Basappa *bin* Rudda, ryot.
1. Seedappa *bin* Bharmappa Talleekairi, ryot.

Revenue Survey Number. 1. Sarva Inam.

The 1st "Number" is to the east of the village. Dry crop Daug, Alad Pattee Shet.

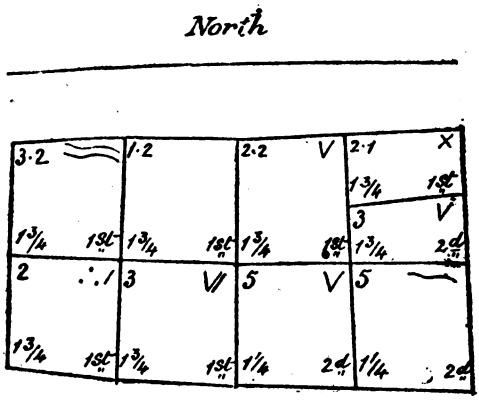
1. The Sarva Inamdar, Rayen Gowda *bin* Bassan Gowda, present.

Total acres	Unculturable	Remaining culturable
30·15	0	30·15

The classification of this Number is as follows:—

Dry crop soil

Cultivated.	Waste
27·10	3·5



Classes	Shares	Annas
1·2	1	20
2·2	1	18
2·1	½	8
2·0	1	14
3·2	1	16
3·0	1½	18
5·0	2	18
	8	112

Average rate 14·0 pies.

1. The "Number" is near the village.
2. The measurements, sketches in the Measurer's book, and the entries, are properly made.
3. The map is correct.
4. There is no unculturable land in this "Number."

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5. The boundary marks, both mounds and stones, are agreeable to the Rules, and correspond with the entries in the measurer's book, and are in good repair.

Revenue Survey Number 2. *Jodi Inam.*

East of the above Number. Dry crop and rice land Daug, of the Poojarki Kattee Shet.

1. Jodi "Inamdar," Balappa *bin* Kankappa, deceased.
1. Balappa *bin* Timmappa, the Wahiwatdar, present.

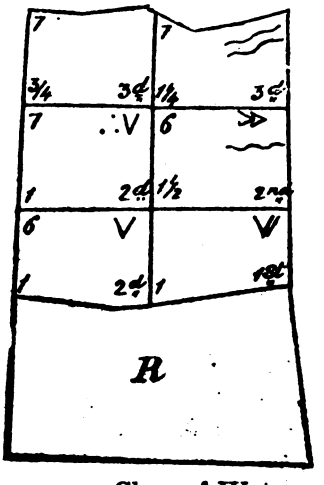
	Total acres	Unculturable	Remaining culturable
Dry crop land ...	11·32	0·8	11·24
Rice	6·22	...	6·22
Total ...	18·14	0·8	18·6

The classification of this Number is as follows:—

Dry crop soil, 11 a. 24 g.
Cultivated, 10 acres. Waste, 1 a. 24 g.

Classes	Shares	Annas
6	3	21
7	3	16½
Total ...	6	37½

Average rate 6·3 pies.



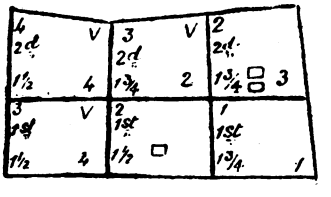
Rice land, acres 6·22
Cultivated, 6 a. 22 g. Waste, 0

Classes	Shares	Annas
1	1	16
2	2	28
3	2	24
4	1	10½
	6	78½

Average rate 0·13·1

Class of Water.

Class	Shares	Product
1	1	1
2	2	4
3	1	3
4	2	8
Total ...	6	16



Average class, 2 annas 8 pies.

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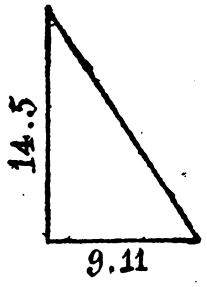
1. This Number is ¼ mile from the village.

2. The measurement and sketches in the book are correct; but the name of the Wahiwatdar, *viz.*, Kenchappa *bin* Rayappa, is not correct. I have corrected it according to the Village records. Besides the rice land measured by the Measurer, there is more near the dry crop soil to the north, the measurement of which is as follows:—



69·5½ Wasla 1st, a triangle to the north of the rice land.

Breadth	Length
9·11	14·5

Area 138·10½ Half = 69·5½

This has been deducted from the Measurer's dry crop, and added to his rice land acres.

3. There is a bend in the southern boundary, not shown in the map. I have shown it according to the book in pencil; it has to be shown in ink.

4. There is a small nalla running along the east, for which the measurer has deducted 8 guntas which I have allowed to stand.

5. The boundary marks, both mounds and stones, are according to the field book, and in good repair; but the Western boundary is 62 chains long, and should therefore have three mounds. There are, however, only two. I have marked a place between them for a third, and give a written order to the Patel and Shanbhog to have it put up. I have also marked this mound in pencil, in the boundary sketch, and numbered it.

6. I have this day inspected the above mound, and found it properly put up.

Date (Sd.) Classer.

Remarks regarding Rice Land.

1. Water is conveyed by a Pat to the rice land, from Revenue Survey Number 3, which is a tank.

2. There are 14 guntas of large cane cultivation in the rice land at present.

Revenue Survey Number 10. Government Land.

South of the above "Number." Garden land Daug, of the Mavin Gida Shet.

1. "Karda" Bharmana *bin* Danappa, present.

Total acres	Unculturable	Remaining culturable
4·37	0·17	4·20

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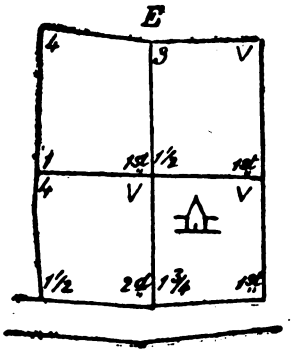
The classification of this Number is as follows:—



Garden cultivation

Cultivated, 4 a. 20 g.		Waste 0
Classes	Shares	Annas
2	1	14
3	1	12
4	2	21
Total ...	4	47
Average rate ...		11·9

Remark 1. To be written as in foregoing Numbers.

2. The measurement and sketches, and entries in the Measurer's book, are correct; but there is a temple in the Number which the Measurer has not shown. I have shown it in ink, in its proper place in my sketch, and in pencil in the measurer's boundary sketch, and in the map.

3. The map is correct; but the temple alluded to in remark No. 2 has to be shown in ink.

4. The measurer has deducted 4 guntas for unculturable land, on account of two wells, 1 gunta for a temple and 6 guntas for a Kalve (water-course) of these the deduction for the wells is correct; but the Kalve is 4 instead of 2 annas in breadth, entered by the measurer. I have therefore cancelled his entry for it, and entered 12 guntas.

5. The boundary marks, both mounds and stones have been put up, according to the Measurer's book, and Rules; but mound No. 4, on the southern boundary, is in bad repair, and stone No. 2, on the northern boundary, is broken. I have given a written order to the Patel and Shanbhog to have these put in order.

6. I have this day inspected the above mound and stone, and found them in proper order.

Date.

(Signed) Classer.

Remarks regarding Garden Cultivation.

1. Well No. 1, to the north, was sunk ten years ago, by the Karda of the Number Bharmapa *bin* Danappa, and he is at present the Wahiwatdar.

2. The Tharola of the well is for two Mots, and is strongly built up with chunam and stone; the other parts are not built up, but the sides of the well are of firm rock.

3. The depth from the lower roller of the Tharola to the surface of the water is 4½ yards, and the depth of the water

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is 3 yards. The dimensions of the surface of the water from east to west is 5 yards, and from north to south 4½ yards, making the area at the surface 22½ yards.

4. The Mots have been worked since morning, now two hours. In the hot season, the well contains sufficient water to admit of the Mot being worked five hours a day.

5. The water is sweet, and there are two springs, about as large as the thickness of two fingers, coming from the west. The other springs are small.

6. The crops cultivated during the current season are—

0·20 Betel creeper.
0·20 Large Supari trees 200, small 100.
0·10 Plantain trees.
0·10 Turmeric.
1·20 Sugar-cane.

3· 0 Total.

1·20 Dry crop cultivated this season by way of rotation.

4·20 Total.

The above shows the actual state of the whole of the garden land.

7. Revenue Survey Number 25, a Government field, has a right to and enjoys the benefit of one-fourth of the supply of water from the well in this Number.

8. Three acres of this Number are sown every year with garden crops. The remaining 1 acre 20 guntas, in consequence of the water in the well being deficient, is sown in rotation with dry and garden crops.

9. The water from the well can be conveyed to any part of the Number.

10. Remarks 1, 4, 5, 7, 8, 9, are written from information given by the Karda and Moodkapa *bin* Kenchapa, raiyat and Bassan Gowda *bin* Timman Gowda, Patel.

Remarks regarding Well No. 2, to the East.

1. No one knows when or by whom this well was built. It is, in consequence of the Tharola having fallen in, out of repair, and therefore has not been made use of for irrigating purposes for the last 15 years. When it was used for the purpose of irrigation, there was a Tharola for one Mot.

2. The depth from the lower roller of the Tharola to the surface of the water is 5 yards, the water is 2 yards deep, and the length of it at the surface from east to west is 4 yards, and the breadth 3½ yards, making the area of the surface 14 yards.

3. The water is sweet; small springs come from the west, but no one can tell how many.

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4. These remarks are written from information given by the persons mentioned in Remark 10 above.

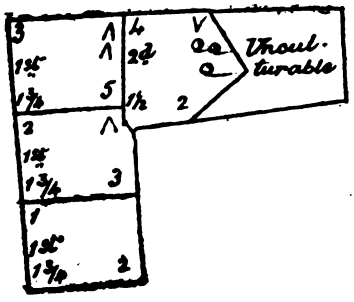
Revenue Survey No. 13. Government.

To the north of the above Number garden soil Daug, of the Mulloor Hader Shet.

1. The Karda, Malla *bin* Kallapa Mulloor, absent.

Total acres	Unculturable	Remaining culturable
4·26	1·6	3·20

The classification of this Number is as follows:—



	Garden land	
	Cultivated	Waste
	3·20	0
Classes	Shares	Annas
1	1	16
2	1	14
3	1	12
4	1	10½
Total ...	4	52½

Average rate 13·1½ pies.

The class of the supply of water from the Pat.

Classes	Shares	Product
2	2	4
3	1	3
5	1	5
Total ...	4	12

Average class 3

Remark 1 to be written as in the foregoing Number.

2. The measurement and sketches in the book are correct, but the Measurer has entered the "Number" as *Nowkree* Inam, whereas it is Government land. I have made this alteration from the Village records. Besides, there are three mango and two tamarind trees in the southern part of the "Number," which the Measurer has not shown. I have made marks for them, according to the Rules, in the proper places.

3. The map is correct, but the entries according to remark 4 should be made.

4. There is a Kalve (water-course) running through the West side of the Number, which the Measurer has not

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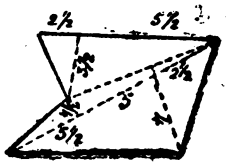
deducted. The measurement of that and some rocky soil to the South is as follows:—



30·14 Wasla 1st, four sided.

Breadth	Length from S. E.
4· 0	5
0·12	5½
	2½
2) 4·12	
	13
2· 6	

Area 30·14

14· 0 Wasla 2nd, a triangle, East.

Breadth	Length from South
3½	5½
	2½
3) 3½	8

Area 28, 1¾.

1· 8 Wasla 3rd, a Kalve (water-course), to the South.

Breadth	Length
0·2	12

Area 1·8

46· 6 or 1 acre 6 guntas 6 annas, total area.

5. The boundary marks, both mounds and stones, are according to Rules, and in good repair, but mark No. 6 in the boundary sketch is in excess. I have therefore cancelled it with pencil in the book.

Remarks regarding Garden Land.

1. The cultivation in the garden soil of the Number during the present season is—

A. G.	
2·20	Sugar-cane.
0·30	Supari trees, large, about 520.
0·10	Plantain trees.
	Besides these there are two mango trees on the boundary of the Number.
3·20	Total

The above shows the actual state of the whole of the garden land.

2. It is usual to have garden cultivation in the whole of this Number every year.

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3. Water is conveyed to this Number till about the end of April by means of a Pat, from Number 3, which is a tank.

4. It costs the Karda of this Number 1½ Rs. a year to have the Pat cleaned out.

Tuesday, January 25th.—Persons present while classifying in the fields:—

1. Basan Gowda *bin* Timman Gowda, Patel.
1. Bheemrow Bapoojee, Shanbhog.
1. Sewanna *bin* Danapa, raiyat.
1. Hanmantapa *bin* Sewbasana Hullur raiyat.

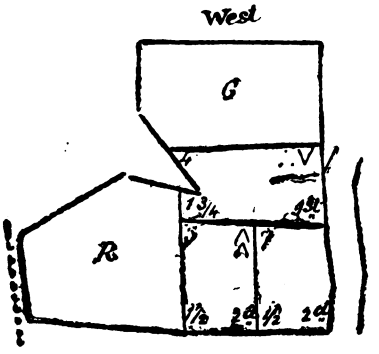
Revenue Survey No. 25. Mahal Jodi Inam.

To the south of the above Number, across the road. Dry crop, rice and garden land Daug, of the Govindappa Gadde Shet.

1. The Mahal Jodi Inamdar, Govind Ballajee Desai, is deceased.
1. Wahiwatdar Krishnaji Raghavendra, absent.

	Total acres	Unculturable	Remaining culturable
Dry crop ...	4·5	...	4·5
Rice ...	4·2	...	4·2
Garden ...	2·21	0·1	2.20
Total ...	10·28	0·1	10·27

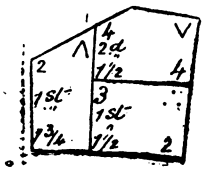
The classification of this Number is as follows:—



Dry crop, 4 acres 5 guntas.
Cultivated 0 Waste 4·5

Classes	Shares	Annas
4	1	10½
5	1	9
7	1	5½
	3	25

Average rate 8·4 pies.



Rice land, 4 a. 2 g.
Cultivated 4·2 Waste 0

Classes	Shares	Annas
2	1	14
3	1	12
4	1	10½
	3	36½

Average rate 12·2

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Classification of the supply of water

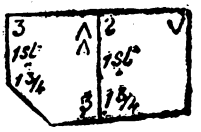
Classes	Shares	Product
2	1	2
3	1	3
4	1	4
	3	9

Average class 3

Garden, 2a. 21g.
Cultivated 2·21 Waste 0

Classes	Shares	Annas
2	1	14
3	1	12
	2	26

Average class 13



Patasthal 0·30.

The class of the supply of water from the Pat is the 3rd.

Remark 1 to be written as in the foregoing Numbers.

2. The measurements, the sketches in the Measurer's book, and the entries, are all correct.

3. The map is correct.

4. The Measurer has deducted 1 gunta on account of a well in this Number. This I have allowed to stand.

5. Boundary marks, both mounds and stones, are all according to Rules, and in good repair; but a mark for a mound on the southern boundary has been left out in the boundary sketch. I have entered and numbered it in pencil in the sketch.

Remarks regarding Rice Land.

1. The water to irrigate the rice cultivation is brought, by means of a Pat, from Survey No. 9, which is a tank.

2. 1 acre 2 guntas is cultivated with the small kind of sugar-cane this season in the rice land.

3. Sugar-cane is never cultivated in the northern shares of the rice land, but two good crops of rice are raised in them yearly; for which reason the supply of water is put in the 3rd Class.

Remarks regarding Garden Cultivation.

The garden cultivation of this Number is irrigated from a well in Survey No. 10.

Remarks 1, 2, 3, 4, 5, written (for) or No. 10, are applicable to this Number also.

6. In the 2 acres 21 guntas of garden land in this Number, the following crops are being raised this season:—

1·25 Sugar-cane.
0·15 Turmeric.
0·21 Brinjals and other minor vegetables.

2·21 Total

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The above shows the actual state of the whole of the garden land.

7. The Karda of this number has a right to, and enjoys, a quarter share of the water of the well in Survey No. 10, for the purpose of irrigating this Number.

8. The whole of the garden land of this Number is cultivated every year with garden crops.

9. Besides the land cultivated with garden crop in this Number, water could be conveyed to 2 acres of dry crop soil; but it is not the custom to cultivate this land with garden crops.

10. Remarks 7, 8, 9 have been written from information given by the Karda, by Moodkappa *bin* Kenchappa, raiyat, and by Basan Gowda bin Timman Gowda.

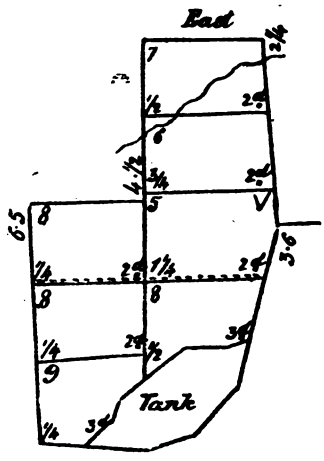
Revenue Survey No. 114. Government.

To the east of the foregoing Number. Dry crop soil Daug, of the Balpan Katte Shet.

1. The Karda, Moodkappa *bin* Chen Mallappa present.

Total acres	Unculturable	Remaining culturable
12·35	1·11	11·24

The classification of this Number is as follows.



Dry crop, 11a. 24g.
Cultivated 10·24 Waste 0

Classes	Shares	Annas
5	1	9
6	1	7
7	1	5½
8	3	12
9	1	2½
	7	36

Average rate 5·2 pies.

Remark 1. Should be written as in the above Numbers.

2. The measurement, and sketches in the Measurer's book, and entries, are properly writen; but the foot-path to Mallapoor, and a small *nalla*, pass through the Number, which the Measurer has not shown. I have made marks for them according to the Rules.

3. The map is correct, but requires to have the road and *nalla* shown, agreeably to remark 4.

4. The Measurer has deducted 38 guntas on account of a tank. This I have allowed to stand; but he has

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not deducted for the foot-path and *nalla*. This I have done, according to the following measurements:—

6· 6 Wasla 1st, four sided, path.

Breadth	Length
0·4	25·8

Area 6·6

6·13½ Wasla 2nd, four sided nalla.

Eastward

Breadths	Length
0·6	18·4
0·8	
0·4	
1·2	

0·6 Average breadth.

Area 6·13½

13· 3½

Total unculturable portions, including that entered by the Measurer=1a. 11g.

5. The boundary marks are not prepared according to the Measurer's books, inasmuch as mound No. 4 to the east has not been erected. This, according to the Rules, should be erected; and I have therefore made marks for it, and given the Patel and Shanbhog a written order to have it put up.

6. I have this day inspected the above mound, and found it properly put up.

Date (Signed) Classer.

Remarks regarding a Tank in the Number.

1. Water comes to the tank from the high grounds, during the rains, but is not conveyed by a Pat.

2. The tank is somewhat filled with mud. It was excavated 15 years ago, by Sewan Gowda *bin* Parwat Gowda.

3. The dam below the tank is of earth; there is no sluice for drawing off the water, and therefore one is made. This is done by cutting a passage through the dam down to the level of the water.

4. After the tank is once filled during the rains, it holds sufficient water to irrigate the rice crops for about 15 days of dry weather.

5. Water remains in the tank after the close of the rainy season till the end of November.

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Revenue Survey No. 190, Government.

To the north of the foregoing Number Parampok Talav Daug, Hera Keri.

Total acres	Unculturable	Remaining culturable
28·31	28·31	0

1. This Number is ¼ mile from the village.
2. Measurement and sketches, and entries in the Measurer's book, correct.
3. The map is correct.
4. The whole Number is unculturable.
5. The boundary marks, both mounds and stones, have all been erected according to the Measurer's book, and to Rules, and are in good repair.

Remarks regarding the Tank.

1. Water is conveyed during the rains to the tank by means of a Pat from the high grounds.
2. The tank is in good repair; no one knows who built it, or when it was built, but it was repaired six years ago by Government, at an expense of Rs. 2,000.
3. The dam of the tank is of stone and earth, and it has a sluice built of chunam and stone.
4. After the tank is once filled during the rains, it holds sufficient water to irrigate the rice and garden crops below it for about three months of dry weather.
5. After the rains have ceased, and the rice crops have been cut down, sufficient water remains in the tank to irrigate the second crops and garden cultivation till the month of February.

The classification of the village was finished this day.

Date.

(Signed) Classer.

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FORM No. 2.

Statement of Errors found in the Measurements, and in the Measurer's Book, while Classing the Lands of Mowjeh in the Taluk of the District.

Revenue Survey Numbers.	Errors entered from the Classer's Books.
1	2
2	The name of the Wahiwatdar is not correct, and the Measurer has measured some rice land as dry crop soil.
10	The temple has been included in the unculturable portion, but is not shown; and in deducting unculturable land for the Kalve (water-course), its breadth has been taken as 2 annas instead of 4.
13	Is entered as Nowkri Inam, whereas it is Government, and nothing has been deducted as unculturable for the Kalve, nor marks made for 5 large trees which are in the Number.
114	Nothing deducted as unculturable for the foot-path and small *nalla*, nor are they shown.
50, 51, 52 and 53.	A small *nalla* runs through these Numbers, for which unculturable land has been deducted; but the course of the *nalla* is not shown.

(Signed) Classer.

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FORM No. 3.

Statement of Errors in the Map of Mowjeh in the Taluk of the District found while classifying the lands of it.

Revenue Survey Numbers.	Errors entered from the Classer's Books.
1	2
2	There is a bend in the southern boundary of the sketch of Measurements, not shown.
10	Temple not shown.
13	Five trees not shown.
114	Foot-path and a small *nalla* not shown.
50, 51, 52, 53,	A small *nalla* passes through these Numbers, which is not shown.

(Signed) Classer.

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Form No, 4

Statement of Errors made by the Measurer in the erection of Boundary marks at Mowjeh in the Taluk of the District, and of Marks found out of repair while classing the lands of this Village.

Revenue Survey Numbers	Marks never put up.		Out of repair.		Date on which the deficiencies were discovered.	Date of Inspection after the Marks were rectified.	Remarks
	No. of Mound.	No. of Stone.	No. of Mound	No. of Stone			
1	2	3	4	5	6	7	8
2	17 West	...	...	...	10th Jan.	15th Jan.	One mark made in excess on the entries in the Measurer's book.
10	...	...	4 South	2 North	Ditto.	Ditto	
18	...	...	...	...	Ditto.	...	No Mound, but mark No. 6 made for it, which should be cancelled.
25	...	...	...	...	25th Jan.	...	Mound raised, but no mark for it in the book.
50	...	...	1, 2 East	...	27th Jan.	30th Jan.	Mounds will not stand in consequence of a small *nalla* running close by. I have placed stones instead.
114	4 East	...	...	...	3rd Feb.	10th Feb.	There is also a mound in excess, which I have caused to be thrown down.

(Signed) Classer.

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FORM

Statement of Wells and Motasthal and Patasthal Bagayet

Revenue Survey Number in which the well is situated, and whether the Number is Government or Inam.	Number of the well, according to the order of priority.	Who built the well, and when, and who enjoys the benefit (of it now)	How the Tharola is built, and how many Mots is it for.	Depth from the lower Roller of the Tharola to the surface of the water. (Yards)	Depth of Water. (Yards)	Superficial Area of the Surface of the Water. (Yards)	When was the Mot last used.
1	2	3	4	5	6	7	8
24 M. J. E.	3 N.	No person knows when or by whom the Well was built, but Bharmia Hebsoor cleansed and repaired it about 10 years ago, and he now enjoys the benefit of it.	The Tharola is for two Mots, and is built up with chunam and stone. The rest of the Well is not built up, but is in good repair.	4½	3	22½	In use at persent.

Fruit Trees in Bagayet Cultivation.	Superintendent's Settlement. Number.	Bagayet Acres Guntas.	Rate.	Amount.
20	21	22	23	24
10 Mango 4 Jack 4 Cocoanut				

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No. 5.

in Mowjeh in the Taluk of the District.

How many Mots are in use generally.	For how many hours in the hot weather are the Mots used daily.	Is the water sweet or brackish, and what kind of Springs are there.	What Revenue survey Numbers are irrigated by the well, and what Crops are sown in the Bagait, etc.					Of the Pat if there is one.		Value per Acre of the Soil in Annas.
			The Survey Numbers, and whether they are Government or Inam.	Culturable Acres, and of them how many are sown every year with Bagayet.	Who have a right to the Water, or who enjoys a share of it.	Are Crops sown in rotation in the Bagayet Soil.	Crops in the Bagayet during the present Season.	How many Acres are irrigated from the Pat.	Class of the supply of water.	
9	10	11	12	13	14	15	16	17	18	19
1	5	Water sweet. There are two Springs, each about the thickness of two fingers. The others are small.	25 M. Jodi	10·26, of which 3·20 at an average.	No. 27 has a right to one-fifth share of the Water, and enjoys that now.	They are.	Ac. Guntas. 0 20 Betel Creeper. 0 20 Supari trees small 100. large 200. 0 10 Plantains. 0 10 Turmeric. 1 20 Sugar-cane. 1 20 Dry Crop. 4 20 Total.	2 20	3rd.	0 13 6

If the Pat comes from a Tank, mention should be made of the Number in which the Tank is situated; if it comes from a Dam thrown across a Nalla, mention should be made as to where the Dam is, and how it is built, and what it costs yearly to keep the Dam and Pat in order. In case a right is possessed to the water conveyed by the Pat, the kind of right possessed should be mentioned, and besides the information in the foregoing Columns, anything which will throw light on the subject should be entered briefly in the remark.

25

The Varda River is dammed up opposite Mowjeh Kolur, and water is conveyed from that place by means of a Pat. The Dam is slightly out of repair, and therefore less water is conveyed from it than used to be. At present there is no one to repair the Dam, but it costs about 3 Rs. a year to keep the Pat in repair. A Petition has been made to Government to repair the Dam.

(Signed) Classer

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CHAPTER XIII.

Field Tests.

As test in the field is the keystone to accuracy of work by Field Establishments, the officers placed in charge should themselves conduct as much test work as possible and no subordinates should be ordered to take tests except under special circumstances which must be reported to the Superintendent.

2. *Amount of tests.*—Measuring and Classing officers should test about 10 per cent of the Survey Numbers measured or classified, exercising careful judgment in the distribution of their tests with regard to fields and with reference to the proficiency and general qualifications of the measurer or classer concerned. The work of young and less expert measurers or classers requires a larger percentage of test while a lesser will often suffice in the case of the more experienced men. The work of inexperienced measurers, particularly that of men surveying their first village should be tested frequently so that they may be checked if going wrong.

3. *Quantity of test and what differences to be considered unsatisfactory.*—Assistants should not ordinarily take too large tests, as it would be difficult to carefully plot each day's work, searching out the source of all differences or errors. On an average about 15 days of testing in each month will suffice, in addition to visits to measurers for ascertaining the progress of work.

I. Measurement.

4. *Unsatisfactory numbers.*—The following differences between test and measurer's acres should be considered unsatisfactory.

Over 2 per cent	in numbers	above 7 acres.
„ 3	do	from 3 to 7 acres.
„ 4	do	from 1 to 3 acres.
„ 5	do	under 1 acre.

In all cases of difference, care must be taken to find out where the fault lies, and whether the error, if any, fully accounts for the difference in question.

5. In addition to testing the measurement, about 10 per cent of the Survey Numbers should be inspected as to boundary marks and *bab-phod* in mixed numbers.

It is not absolutely necessary to test every village. Small and unimportant villages may be left out, but it is essential that Survey operations should be done by measurers under fear of test.

The measuring Assistants should so regulate their tests that the area tested as well as the numbers tested might bear a more

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uniform relative percentage as regards original work. Where Theodolite measurement preponderates in any village, a few such numbers must be tested with the above object in view. In short, no branch of work should be left untested.

6. *Test work should not be postponed.*—The test should not be postponed till the field work in all villages is entirely completed. In large villages, two or more tests may be taken while the survey operation is in progress and a final test after completion.

It is much better for an Assistant to take some tests of villages in progress than to remain idle. He will, by this means, lighten his work afterwards. The work of many inferior men must require to be most promptly tested without waiting for the completion of their village even though it be a small one. After the first fortnight of the season in a new taluk has elapsed, the officer in charge can always find tests which can be usefully taken.

Care should be taken especially at the close of the season to have the test well up with the measurement. All the finished villages should be tested before the officers in charge return to headquarters so that no portion of this important work is allowed to stand over till the next season. If any tests remain at the close of the field season they should be taken as soon as the next season opens and a supplementary test return must be submitted before the 1st December.

7. *Records of test to be kept.*—Every Assistant Superintendent must keep a journal containing all the particulars to be entered day by day on the completion of the test of a village. He shall also record his measurements in a field book and on the prescribed sheets called plot sheets. These records have to be produced at all times when called for.

8. *Monthly test return.*—The monthly test return both in the field season and during monsoon should be filled in day by day as the tests are taken, and a remark that such has been done entered at bottom of the return.

Note:—Should the test not be plotted on the day on which it was taken, entries can be made in pencil and inked in as soon as the result is known.

9. *Numbers tested in previous months to be also noted in test returns.*—Assistants should show in their test return, not only the numbers and acres tested during the month under reference, but also the total numbers and acres tested since the commencement of the season.

10. *Short test to be explained.*—In returns of short test, the Assistant should note a brief explanation of the cause there of.

11. *Instructions for filling in test returns.*—

(1) The monthly test return should be filled in day by day, as work is done.

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(2) Entries of examination made not in the field but at the Assistant's camp should be distinguished by an asterisk.

(3) The return should always be forwarded before the 5th of the succeeding month, together with the vernacular return of the work done by the establishment, in the past month.

(4) Columns 4, 5, 6, and 7 refer exclusively to work done in the field, 4 and 5 to actual measurement by the Assistant and 6 and 7 to his inspection of the boundary marks. Whenever it happens that the boundary marks have not been inspected by the measurer at the time of taking the test owing to the marks not having been ready, columns 6 and 7 should be left blank, and a remark entered "marks not ready."

(5) Columns 8 and 9 refer to all entries in the field book and other records of numbers tested and examined in the field; these two columns and column 10 are also used to exhibit the result of examination of books and maps, either at the Assistant's camp or at the measurer's village. Whenever the books are found in arrears, a remark should be written to that effect in the column for remarks, stating the extent of arrears as for instance, "maps of six numbers in arrears", "2 day's measurement not entered in Pakka book." Remarks of this kind give information which proves valuable against a measurer's character, should his dismissal ever come under consideration for systematically leaving the books in arrears. Results of instructions to measurers should be entered in columns 8 and 9 of test return as "S"* or "U"*; unless this is done there is nothing to show whether measurers' books were written up to date or not.

(6) *Columns 17 and 18.*—These columns refer to a branch of work which is of primary importance, and too much attention cannot possibly be given to it. The division of all numbers, of which the measurements are tested, should be examined in the field, as to whether they have been divided in all respects in accordance with the rules. They should also at the same time be checked with the old survey papers and the records of the Shanbhog, whose presence should be invariably insisted upon. If by any accident he cannot be present, sufficient information can be generally obtained from the Patel if present, or ryots, to ascertain that no material violation of the rules has taken place.

(7) When the measurements of any numbers are tested, the Assistant should always have the measurer's calculations carefully examined, taking care that the person making this examination does not know the area of the numbers shown by the test. It is also necessary to look at the original acres as shown by the measurer's uncorrected calculations, and the acres shown by the corrected calculation, and if the difference is of any amount, to ascertain the cause in order to prevent the possibility of the examiner, through an understanding with the

*S—Satisfactory. *U—Unsatisfactory.

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measurer, correcting fraudulent measurement, under the guise of correcting a mere mistake in calculation.

(8) All mistakes in the original measurement, which should be discovered in the monsoon examination, if conducted as directed by the rules with proper vigilence, should be corrected. In this category may be included omission of measured waslas from the calculation, adding or dropping 10 chains through a mistake in adding up the separate measurements of a line common to several waslas on one side etc.

(9) After examination and correction of the measurer's books, the acres thus deduced from the measurement books should always be shown in the test return; it is not allowable to remeasure and enter the corrected measurement of particular numbers ascertained to be incorrectly measured in the first instance.

(10) Whenever press of other work does not allow time for the plotting of any test, columns 4 and 5 should be left blank and in the remarks column should be written 5 numbers (or as the case may be) measured but not plotted, the remaining columns being filled up as usual. When the numbers thus entered are plotted, the result should be shown at the end of the test report of the month in which they were plotted with a remark showing on what date the numbers in question were measured.

(11) Too much time should not be spent on actual test of measurement, as many other branches of the work, claim a large share of the Assistant's attention and as an undue proportion of time can only be bestowed on one branch at the expense of some other. A new establishment will of course require a much larger test in proportion to the work done than an old one.

(12) It is most necessary that measurer's books and records should, from time to time, be examined unexpectedly, to check as far as possible the mischievous practice which many men, indulge in, of leaving their books in arrears. This is best done by visiting the measurer in field or at his village; but circumstances will not always permit of this, and then the measurer should be suddenly called to the Assistant's camp, timing his probable receipt of the order so as to interfere as little as possible with his field work. From the time of his presenting himself may be deduced a fair idea if he started immediately on receipt of the order, or delayed a few hours, in order to obtain time to bring up arrears.

(13) Particular attention should also be paid to the regular receipt of the measurer's daily reports; immediate notice should be taken of any remissness on the part of a measurer to forward his reports, day by day. If a man's reports are in arrears, it may fairly be presumed that his books are in arrears also.

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(14) When an Assistant Superintendent is engaged for several days at a time during the field-season in doing work of a miscellaneous nature, a note of such work should be made in column 21 of the test teturn.

12. *Instructions for filling in field books and plotting the measurements taken by Assistant Superintendents.*—(1) In testing measurements, each Assistant shall record his work in a field book kept for the purpose and on the prescribed sheet. These are to be produced at all times when called for.

(2) All entries in the field book shall be made in the Assistant's own hand in the prescribed form, the state of boundary marks, etc., being recorded in a note. This form is not to be deviated from, unless such deviation is directed or authorised.

(3) Every measurement or bearing entered in the Assistant Superintendent's field book shall be taken by himself or other officer in his presence.

(4) When the country is moderately open and level, the theodolite should be used in preference to the cross staff and chain but the Assistants may adopt the latter method to the extent of one fourth of the entire test in any village.

(5) The Assistant should himself plot his field work; the "equalizing" and calculations should also be performed by the Assistant himself.

(6) No fixed amount of test is prescribed, the amount and time of taking it may vary according to the confidence which may be placed in the work and qualification of the measurer or classer. It is, however, desirable, when conveniently practicable, that part of the test should be taken after the measurer or classer has completed his operations and left the villages; and all tests should be both sufficient and accurate.

(7) In the case of any measurement having been accidentally omitted or mistaken in the original test survey, the Assistant Superintendent may send a Karkun to re-measure the omitted or doubtful line only, where from other data of his own, he can check the truth of the measurement so obtained. When his own work does not contain such means of check, he must revisit the spot and take the requisite measurement in person.

13. *Extra Bandh Pahani to be taken during test time.*—Not only have the boundary marks of the numbers tested, to be carefully examined, but also some additional survey numbers should have their boundary marks examined and compared with the entries in the measurer's books. Stones should not be allowed to be substituted for bandhs unless such a course is specially authorized. Any negligence on the part of the measurers in reporting marks as correctly put up when they are afterwards found not to exist at all, deserves a most severe punishment.

14. *Survey numbers near tanks, channels and high roads to be tested.*—While conducting tests of villages, an Assistant

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Superintendent should make it a point to test some numbers near a high road, tank or channel with a view to satisfy himself that the prescribed margin has been allowed, and if not, to severely punish the measurer concerned.

15. *Number of bandhs and stones entered for each number to be checked at test time.*—The Assistant must carefully check during tests of villages demarcated by paid labour, the numbers of bandhs and stones entered to each number in the accounts with the entry in the boundary mark sketch and with the number in the field, in the case of all numbers tested by him either for measurement or for boundary marks.

16. *Strip of land to be left uncultivated between boundary marks.*—Assistant Superintendents should warn villagers during tests that they should leave a strip of land uncultivated from one boundary mark to another.

17. *What differences in test are to be considered unsatisfactory.*—

The following differences between test and measurer's acres should be considered unsatisfactory.

Over 2 per cent in	Survey Nos.	above 7 acres.
„ 3	do	from 3 to 7 acres.
„ 4	do	from 1 to 3 acres.
„ 5	do	under 1 acre.

In all cases of difference, care must be taken to find out where the mistake lies and, whether the error, if any, fully accounts for the discrepancy in question.

18. *Darsod in the area of tested numbers.*—In calculating areas of numbers submitted to test, "Darsod" is allowed to the following extent:—Numbers under 5 acres, areas have to be shown up to annas; numbers between 5 and 10 acres, up to ¼ gunta; numbers of ten acres and upwards, guntas only to be shown.

19. *Large errors must be satisfactorily accounted for before confirming the village.*—An error like 10 per cent in a small survey number or 4 or 5 per cent in a large survey number must be looked upon as very serious and no village in which such an error is discovered should be confirmed unless the Assistant Superintendent is satisfied on further test that the error in question is an isolated one.

20. *Errors to be fully accounted for.*—In all cases of difference between test and measurer's acres, which is laid down to be unsatisfactory, the Assistant must himself see that his work is correct before deputing a karkun or learner to re-measure the number.

If any error is discovered in measurement, a calculation should be made to see whether the error in area is fully accounted for by the erroneous measurement discovered.

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21. *How errors should be verified.*—In order to verify errors discovered in measurer's work at test, re-measurement must be taken over the measurer's own lines of measurement. The Assistant Superintendent should make sure that the errors of length and breadth noted are sufficient to account for the erroneous area shown.

22. *Employment of learners as test Karkuns.*—Learners should not be employed as test Karkuns for a longer period than three months without reporting the circumstance to the Deputy Superintendent. It is advisable te employ learners as test Karkuns for a few months before appointing them measurers, as their capabilities can be better ascertained than by mere examination.

23. *Occupation of Surveyors to be noted in test returns.*—Assistant Superintendents should state in their monthly test returns how their Surveyors were employed in that month, whether on test work or original measurement.

24. *Amount of test by Surveyors.*—Except under exceptional circumstances to be reported and with the approval of the Deputy Superintendent taken from month to month, the amount of test entrusted to a Surveyor should not exceed one-third of the whole of the original work.

25. *Report of test by Surveyor.*—Immediately after testing a village, the Surveyor should submit the village papers with a report to the Assistant Superintendent in charge embodying the following particulars:—

(*i*) List of village papers forwarded to the Huzur.
(*ii*) The Survey numbers of which the measurement or classification test was taken.
(*iii*) The Survey numbers of which *bandh pahani* was made.
(*iv*) All errors of whatever degree discovered in the field during test, and
(*v*) Whether or not judging from the general results of the test, the work of the measurer or classer in the village may be considered to be satisfactory.

26. *Test returns of Surveyors to be submitted.*—Surveyors should prepare and submit test returns in the form prescribed for Assistant Superintendents, signed by them (Surveyors) and countersigned by the officers in charge.

27. *Retest of Surveyor's test work.*—Assistant Superintendents in charge of field establishments should, whenever convenient and without giving the Surveyors a chance of knowing what villages will be so tested, retest the entire field test work of their surveyors. No fixed percentage of such retest is enjoined beyond a general direction that about half a dozen villages tested during the field season will serve the purpose.

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The officers in charge should submit a report to the Deputy Superintendent soon after the retest of a village is effected, explaining the details in full and sending all reports, etc., connected with the original and the second test.

In cases where an Assistant Superintendent retests the numbers already tested by the Surveyor, the latter's acres only should be shown in the column of test acres, except where the difference is so large as to make the number "unsatisfactory," when the Assistant Superintendent's acres have to be shown in that column.

28. *Retest work to be noted in Annual Progress Reports.*—Assistant Superintendents should state in their annual progress reports how many survey numbers and villages were retested by them during the field season and with what general result.

29. *Replots.*—Assistant Superintendents should replot and calculate 20 per cent of the numbers tested by their Surveyors. Whenever necessity arises, replotting may be reduced and test taken in the field.

II. Classification.

30. *Classer's chuk yadies to be tested in field.*—With a view to prevent undeserved punishment being inflicted upon measurers, Assistant Superintendents in charge of classing establishments should at test time compare the classer's entries with the boundary marks in the field. The Tapasanidars should carefully compare the entries in the classer's *katcha chuk yadi* and field book with those in the measurer's map and *pakka* book before preparing the '*Mote chuk yadi*'.

31. *Numbers entered in chuk yadis to be tested.*—Classing tests should be so arranged as to include as many numbers as possible that are entered in the classer's *chuk yadis*, particular attention being paid to the demarcation both in tested and non-tested numbers.

32. *A larger percentage of water class to be tested.*—As the assessment in irrigated land depends much more on the water class than on the soil class, it is necessary that a larger percentage of the water class be examined than is usual in the case of soil classification. When testing the soil and water classification of a survey number the adjacent number on one or both sides of it can easily be examined and recorded.

33. *A large percentage of survey numbers in which errors of boundary marks are reported should be tested.*—The classing Assistants should test as many numbers as possible in which errors of boundary marks have been reported by the classers. They must clearly state whether the marks were put up at all or whether they have been since destroyed by cattle or water. The test returns should show (*i*) cases found by the classers and (*ii*) those inspected by the Assistant Superintendent.

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34. *Nimtan tippans to be inked day by day.*—Classing Assistant Superintendents should ink the following particulars in their test field books each day after returning from the field.

(*i*) The bhag-annas arrived at by test.
(*ii*) Classer's bhag-annas.
(*iii*) Revised bhag-annas whenever necessary.

35. *Difference in soil and water to be distinctly shown in Nimtan patrik.*—In the villagewar Nimtan patrik, the difference in soil and water class should be distinctly shown in the appropriate columns, the increase in annas being shown in red ink and the decrease in black ink.

36. *Remarks to be noted on Bagayet Thaktas.*—Classing Assistant Superintendents should note in English on the facing sheet of the Bagayet Thaktas, the undermentioned particulars.

(*i*) the month in which the village was classed,
(*ii*) date of test,
(*iii*) general position of the garden,
(*iv*) style of cultivation,
(*v*) general appearance :—thriving or neglected, with the cause of the latter if known, and
(*vi*) any other remarks which serve as a guide in fixing the assessment.

37. *Distance of water in wells.*—Classing officers should pay particular attention to the entries in column 5 of the Bagayet Thaktas, the distance of water from the surface being a very material point in fixing the assessment on well gardens.

38. *Unsatisfactory errors in classification.*– All errors in classification discovered at test exceeding two annas in soil and one anna in water should be considered unsatisfactory and require explanation.

39. *Errors of position class.*—Every case of difference between test and classer's bhag-annas due exclusively to an error of judgement on the part of the classer in applying or omitting position class should be ignored for purposes of entering in the Nimtan book and in the statement accompanying the the progress report.

40. *Miscellaneous. Deputy Superintendent's monthly review on test work.*—The Deputy Superintendent should send to the Superintendent along with the general return of tests, an abstract statement in English of work done by each establishment together with a copy of his review, if any.

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CHAPTER XIV.

Monsoon Examination.

I. General.

Monsoon tapasani or examination involves a thorough scrutiny of the records and maps prepared by measurers and classers in the field and the compilation of the various statements and registers prescribed in this behalf.

2. The different stages of scrutiny, comparison and compilation of records are set forth in this chapter. All the Rules prescribed during Original Survey are applicable to the monsoon examination of the re-survey records as well.

3. *Estimate of monsoon work to be sent to the Deputy Superintendent.*—Soon after the return of the Field Establishments to head-quarters, Assistant Superintendents should submit to the Deputy Superintendent, a statement in the prescribed form *Andaj Patrak* showing the amount of *tapasani* work to be done during the monsoon season. Besides noting the required details in the *Andaj Patrak*, the estimate should also show the probable number of measurers or classers required to complete the *tapasani* work before the 5th November following. While estimating for men, due deduction should be made for absentees owing to sickness, casual and long leave. Should it be found later on, that monsoon work could not be finished as originally estimated, a report of the circumstances should be made in order to enable the Deputy Superintendent to transfer measurers from other establishments, if necessary.

Note:—While preparing the *andaj patrak*, *wazai waslas* and test numbers and *waslas* should be excluded as they do not require *tapasani*.

4. *Daily out-turn of work.*—The minimum average of daily work prescribed for each measurer or qualified learner under several heads of examination is as follows:—

(1)	Ruzuwath or comparison of rough and fair field books	400 waslas
(2)	Gunakar or calculation	250 waslas
(3)	Examination of maps	200 waslas
(4)	Putting in sez-or serial numbers on the two maps, field book, pakka book, Prati list, "A" statement and other records	200 numbers
(5)	Examination of boundary marks and other *chillar tapasani*	50 numbers
(6)	"A" Sud Examination	50 numbers
(7)	Talc square Examination	50 numbers

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(8) Mojani Sud	..	..	60 numbers
(9) Nakal Maps	..	..	60 numbers
(10) Nimtan gunakar		..	100 waslas
(11) Scale	..	..	10 numbers or 80 waslas

5. *Work Register or Roznishi and its check.*—The daily out-turn should be noted by the Tapasanidar in the Roznishi or work register maintained in the Field Establishments. The entries in the Roznishi should be sufficiently detailed for verification. The Tapasanidar should note from what survey number to what survey number the *tapasani* was conducted by him. Similarly particulars of *waslas* dealt with by him should be noted in the Work Register. Assistant Superintendents in charge of Establishments should daily check the *barsathi* work, of about one third of the Tapasanidars working in their establishments.

6. *Corrections in Field Books to be Initialled by Assistant Superintendents.*—When corrections are noted in field books in the course of *barsathi tapasani*, it should be the duty of the measurer or Tapasanidar, as the case may be, to get the corrections initialled by the Assistant Superintendent. Omission in this respect should be noticed by the officer in charge.

7. *Noting of Tested Numbers in Field Books.*—The survey numbers subjected to test measurement and bandh pahani by the officers in charge in the field should be noted on the opening sheet of the first volume of the field book, immediately after the test work is done. The monsoon tapasanidar should see that these entries have been duly made and attested by the Testing officer.

8. *Rules for Conducting Monsoon Tapasani by Officers in Charge:—*

(1) After the Ruzwat, Gunakar and map tapasani of a village have been completed in the office, the test learner should bring up the rough map and books before the Assistant.

(2) The Assistant should first glance over the map to see whether boundary marks have been shown in all the numbers; the base line inked in; and the bunds of all tanks (whether large or small), as well as sluices shown by thick lines. He should also see whether any *Nallas* or roads stop abruptly on the boundary of numbers; whether all boundaries have been signed as correct, and whether the examiner has signed the map.

(3) The Assistant should then examine ten per cent of the numbers on the map with scales. All errors over 8 annas that cannot be corrected should be entered in the "*chuk yadi*" by the examiner. The Assistant should take a series of numbers right through so as to ensure an examination of difficult and easy numbers impartially. After examining each number with scales, the number on the map should be compared with the field book to see that all trees, temples, wells, roads, nallas, etc., have been

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shown, and that the four latter have been deducted as kharab in the fair book.

(4) When a nalla or road is adopted as the boundary of a number examined, the Assistant should see that the breadth is fixed according to rules, that is to say, that actual measurements have been taken in the field, and that the roads and nallas have not been shown approximately.

(5) The learner should keep a tippan book in which all errors for correction should be entered, and if fines are inflicted, they should also be entered and initialled, and transferred in due course to the regular fine book.

(6) The Assistant should compare the total length of boundary of at least one map adjoining the map under examination, by taking it off first with compasses, and by afterwards laying down scales and taking off-sets to the principal bends between the extreme points. If found correct, he should initial the boundary on both maps below the boundary examiner's signature. The names written along the boundaries should also be carefully examined to see whether they agree with those of adjoining villages.

(7) The Assistant should then compare the plot sheet with the numbers on the map, and see that all bends, etc., agree and then transfer the north point from the plot to the map, and sign the map in the left hand lower corner, adding date of examination.

(8) When a village has been tested, "True North" should be written and initialled; when transferred from one map to another, "Approximate North," and when fixed by a Theodolite measurer, "Measurer's North," should be entered.

(9) Each Assistant should keep a book according to the form appended, which should be kept in the office as a record.

(10) After signing the map, the Assistant should give out the Gunakar for test. Ten per cent of the total numbers, avoiding test numbers, should be given out, and the numbers entered on the first leaf of the field book and initialled. The fair books should then be securely kept in a box in the Assistant's office room till the test Gunakar is done. When it is brought up, the Assistant should take the fair book and turn up each number and compare the area with that of the test. When a number agrees he should tick it off in his book. Numbers in which there is discrepancy should be examined and corrected by the test learner, who should do this in the Assistant's room. The learner should enter in his book of errors "in such a number, and such a wasla, so many guntas error," and enter the name of the person who made the mistake, whether Ruzuwatdar, Tapasanidar or Tester.

(11) When the test learner has made the corrections, the Assistant should do the multiplication of each wasla in which there was a discrepancy, and see that the test learner has entered

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them properly. This prevents an innocent man being fined, and is altogether a more satisfactory test than doing the Gunakar of a whole number after two men have arrived independently at the same result without collusion, which is impossible when the Assistant takes proper care of the fair field books while test is being done.

(12) The books are then given back in order that the "*sud*" may be prepared. The *sud* should be examined (10 per cent) and each page initialled. Examining the *sud* is also a check on the sequence of the Numbers in the fair book.

(14) The Nimtan Patrak should be brought up at the same time as the *sud*.

(15) The "copy" map should be more carefully examined, and compasses applied to points distant from each other, and the measurements thus obtained should be compared with those between corresponding points in the rough or Katcha map to see whether the former has been properly pricked off. The Assistant should also see that the sides of the map are parallel with the true north; and the *nallas*, roads, trees, tanks, temples and wells have been shown correctly, neatly and according to rules; after adding the words "*classer's copy*" in Kannada, the map should be signed in the lower left hand corner by the Assistant Superintendent.

(16) The test karkun should be warned to see that the fair books have been signed at the end by the men who did the Ruzwat, Gunakar, etc.—also that the Assistant's signature is on the books.

9. *Preparation of Nakal Maps.*—As the drawing of *pakka* maps is discontinued, *nakal* or "copy" maps should be prepared with great care and clearness.

10. *Detention of Measurers in the Field during Monsoon Season.*—During the monsoon, the measurers or classers should not be allowed to keep out for any length of time after the Assistant Superintendent returns to head quarters.

11. *Submission of Weekly Reports of Barasathi Work.*—Weekly reports in the prescribed form should be sent by the officers in charge showing the progress of the monsoon *tapasani*.

12. *Examination of "copy" Maps.*—The number of "copy" maps and *suds* examined during each month should be shown in the monthly return of examination of monsoon work.

13. *Fines imposed to be reported by Classing Assistants.*—Classing Assistant Superintendents should when no fines were imposed in any month, forward on the 5th of the succeeding month during the monsoons, a docket intimating that no fines were inflicted during the preceeding month.

14. *Entertainment of Temporary Tapasanidars for Akar work.*—If the monsoon work of a classing establishment cannot

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be finished by the classers, temporary men may be entertained to aid in the Akar work.

15. *List of Temporary Hands entertained for Akar Work.*—A list of temporary men entertained for Akar work should be submitted in the prescribed form before the Assistant Superintendent leaves the head-quarters for field work.

16. *How Surveyors should be kept engaged during monsoon.*—During the monsoon season, Surveyors may be employed on Niutan work but no learner need be given to them for help. When there is no test work ready for them, they should be kept occupied with ordinary *tapasani* as other measurers, demanding from them the usual Roznishi. Ten per cent of the test work done by the Surveyors during the monsoon should be retested by the officers in charge.

17. *Retest of Surveyor's Plot Sheet* —Officers in charge of measuring establishments should, during the monsoon season, replot not less than 20 per cent of Surveyor's plotting work and Embody the result in their Progress Reports.

18. *Resurvey Plot Sheets to be sent to Deputy Superintendent.*—All the resurvey plot sheets of officers in charge and Surveyors should, after examination in the monsoon, be sent to the Deputy Superintendent's office for inspection and transmission to the Record Office.

19. *Maps required for Monsoon Tapasani.*—When any maps are required from the Record Office by the officers in charge for comparison of village boundaries, they should apply in the usual way and have the comparisons made in their own offices. Measurers should not be sent to the Record Office to do such comparisons there.

20. *Transmission of Papers to Record Office.*—As a rule, once the papers of a village have been completed, they should not remain in the Assistant Superintendent's office for a day longer than can be avoided.

II. Examination of Measurement Records.

21. The rough and fair field books are to be compared in order to see whether or not the entries of the measurements of all the Waslas of both culturable and unculturable portions of Numbers have been correctly copied from the former into the latter; and also whether or not the boundary-marks entered in boundary sketch of the fair, correspond with those in the rough field book.

22. When the examination, as above, is being made, if an error in the figure denoting length or breadth of a Wasla is found, a line should be drawn immediately below the erroneous entry, and the correct figures from the rough field book written underneath this line. A line must also be drawn across the

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computed area of the Wasla to which the incorrect entry belongs for if a length or breadth is wrong, it follows that the computation made from it must be wrong also. Subsequently, when the examination of the calculations is being made, the error in computation should be corrected also.

23. The lengths and breadths of the Waslas and the distances of the boundary lines as entered in the rough field book, should be taken off a scale, and applied to the corresponding lines in the sketches of the fair field book and map, in order to see whether these are drawn correctly. The positions of temples and other buildings in these sketches and in the map, and the directions of roads and nallas shown in them, should also be examined with scale and compasses.

24. While examining the fair field book and map as above, if an error of less than eight annas in length is found in any distance, it should not be taken into account; but if the error is more than eight annas but less than one chain, it should be considered a small error; and anything above a chain a large one. Errors of this description when found in the field book, should not be corrected; but a remark should be written near the sketch in which the error exists to the effect that it is incorrect. Such errors, however, whether large or small, must always be corrected when it is possible to do so, if they are found in the map.

25. Errors found in the map but which cannot be corrected, should be entered in a statement of errors, the Form for which, headed No. 1 is appended to this Chapter; and as soon as the examination of the fair map is completed, these errors should be shown to the Assistant Superintendent and disposed of as he may direct.

26. After the examination of all the numbers of the rough map of the village is completed, those lines of boundary which are common to it and the maps of adjoining villages, when these maps are in the office, are to be carefully measured off on both maps by scale and compasses; and in case a difference of more than one per cent is found in any boundary line, it should be shown to the Assistant Superintendent. Besides this, the distances which have been taken along the boundaries of fields, to points from which the boundaries of neighbouring villages branch off, and entered in the rough field book, should always be compared by scale and compasses with the corresponding lines on the map, in order to ascertain whether these points have been correctly shown.

27. The entries regarding each number in the fair field book are also to be examined, in order to see whether they have been made exactly according to the prescribed form and Circular Orders; also whether the number is divided according to rules; and whether the remark relative to boundary inspection, etc.,

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is properly written. Any *trifling* mistakes in such entries, regarding which there can be no doubt, are to be immediately corrected; but in case errors are found which are at variance with the rules, a memorandum of them, in the order of the numbers in which they occur, should be made and shown to the Assistant Superintendent for his orders.

28. The whole of the computed areas of Waslas should be examined by calculating them afresh on a tin plate; but no corrections should be made in the original until the areas which appear to require correction are calculated a second time, and the examiner has fully satisfied himself that the original is wrong. Corrections should then be made by drawing a line under the incorrect area and writing the true one below it.

29. After the computed areas of all the Waslas have been examined, the sum of them and any deductions from them, should be carefully calculated, and corrected as above, if found incorrect.

30. In examining as above, all errors above an acre, found in the sum of the computed areas of numbers, should be entered in a Statement made according to Form No. 2, appended to this Chapter and shown to the Assistant Superintendent after the examination is completed.

31. After the examination of all the entries regarding the numbers and their areas, those numbers which have been tested, either by the Assistant Superintendent or a Measurer, with their original areas and those obtained by the test, are to be entered in a Statement, a Form for which, headed No. 3, is appended to this Chapter. Of these numbers, those which have been tested by the Assistant Superintendent, and exhibit an error of more than two per cent and those which have been tested by a Measurer, and exhibit an error of more than three per cent, should be pointed out to the Assistant Superintendent who, if he feels satisfied that the test is correct, will give orders for the areas obtained by it to be entered in the fair field book. In this case, a remark should be written in the fair field book, showing the reason for having rejected the original measurement and adopting that obtained by the test and the signature of the Assistant Superintendent obtained to it.

32. In order to see if the numbers have been examined as directed, the Assistant Superintendent will have some of them examined by a second person, and if it is found that the examination has not been properly made, he will punish accordingly. As soon, therefore, as the examination of the papers of a village is completed, the rough and fair field books should be taken to the Assistant Superintendent who will have them examined. As to the computations, he will direct a second person to compute the areas of several of the numbers from the dimensions of the Waslas entered in the rough field book; in the meantime

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keeping the fair field books in his own possession. For mistakes in computation which are then found, the examiner will be fined according to the following scale:—

1. Fines for mistakes in the calculations of the Measurer's books will be made as follows:—

1st If within an anna, it is not to be taken into account,
2nd from 1 to 16 annas, a fine of half-an-anna,
3rd from 1 to 10 guntas, a fine of one anna,
4th from 10 to 20 guntas, a fine of two annas,
5th from 20 to 30 guntas, a fine of three annas,
6th from 30 to 40 guntas, a fine of four annas,
7th from 1 to 2 acres, a fine of six annas, and
8th if above 2 acres, a fine of eight annas.

2. For errors besides those in the calculations, the Assistant Superintendent will punish as may seem fit to him.

33. The order of the Reveune Survey series of the Numbers in the Village Map should be arranged according to Section.

34. After arranging the order of the series of the Numbers on the fair map, they and their relative positions should be entered from it in the fair field book.

35. After hilly or other difficult portions of land which have been measured with the theodolite or field compass, have been plotted and divided into Numbers on the map, these Numbers should be divided into Waslas and their dimensions taken by scale and compasses for calculation from the map. Two sketches of these Numbers showing their Waslas and boundary marks are then to be drawn; and their computations, etc., entered on the first blank leaves of the last field book, in precisely the same manner as the entries of other Numbers; and in order to see whether this has all been correctly done, these Numbers should be examined in the same manner as is directed above for other Numbers.

36. The area of the site of the village and of roads, *nallas*, and rivers, which have not been included in the measurements of Numbers, should be computed from the map in the manner directed below, and entered after the last Number in the fair field book; but in case a road or *nalla* or river, forms the boundary of two villages, only half its area should be put down to the village under examination.

1st The site of the village should be pricked off the rough map on to the fair field book, just after the entry of the last Number. It should then be divided into Walas, and its area computed in the same manner as any other Number.

2nd Just below the site of the village, the dimensions of roads which have not been included in the measurements of

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Numbers should be entered, their areas computed and the sum of the whole shown.

3rd Immediately below the computations of the areas of roads, the dimensions of nullas and rivers which have not been included in the measurements of Numbers should be entered, their areas computed and the sum of the whole shown.

In case there are no blank leaves left in the book on which the last Number is entered, to make these entries, the circumstance should be mentioned to the Assistant Superintendent, who will have additional leaves stitched into it for this purpose.

37. A statement or Katcha Sud of all the Numbers of the village, showing the extent of each, should be made from the fair field book according to Form No. 4, appended to this Section. In preparing this statement, the entries on each page are to be added up and the totals written on a separate sheet and the sum total of these separate totals is to be entered at foot of the statement, beneath which, again, the areas of the site of the village, roads, nullas and rivers, which have not been included in the measurements of Numbers, should be entered and the total of the whole shown last.

38. The Examiner is to write and sign a remark on the last page of each fair field book examined by him mentioning what portions of it he has examined.

39. A strictly correct copy of the map should be made by pricking off the rough one on a clean sheet of paper and copying everything from it, first in pencil, and then in ink, on the clean sheet. When completed, the person who draws the fair map should sign it on the back, and in case two or more persons should have been engaged in preparing it, they should all sign a remark written on the back of it, showing what portion was done by each. If any errors are found in the fair map after it is finished, the party who made them will be punished by the Assistant Superintendent, who is himself to sign the map at last.

40. A diary should be kept by each Karkun of the work performed by him in the office during the rains. The mode in which it should be kept will be settled by the Assistant Superintendent, but in case he does not give any directions immediately on the commencement of the work, a reference should be made to him.

III. Examination of Classification Records.

41. The Classer's books and papers should not be examined until the examination of the Measurer's books and map has been completed, and the Sud and other papers prepared; and no Classer is on any account to examine papers prepared by himself in the course of classifying.

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42. In the first place, in order to ascertain whether the entries of the relative position of each Survey Number, its tenure, the name of the Dawg to which it belongs, the name of the Wahiwatdar, or Karda, and, if it be Inam the name of the Inamdar, etc., are the same in the Measurer's and Classer's books, these should be compared, in the order in which the Numbers were measured, and when a difference is found in any of these entries, reference should be made to the remarks written in the Classer's books, to see if any allusion has been made to it in them. If there has, and if no doubt is felt regarding the accuracy of the remark, the Measurer's book should be corrected; but if there is no remark alluding to the error in the Classer's book, the omission should be entered in a list of Classer's errors, to be shown to the Assistant Superintendent for his instructions, after the examination is completed. In the next place, the extent in acres, deduced from the guntas, in the Measurer's book, as regards the whole extent of each Number, the deductions on account of unculturable land, and the balance of ctlturable land, should be examined; and if any mistake, either as regards acres or guntas, is found in these, it should be shown to the Assistant Superintendent and corrected, and the error entered in a separate list of Measurer's errors. After this is done, the entries of the areas of Numbers in the Measurer's books should be compared with those in the Classer's books, and all errors in them corrected, after they have been shown to the Assistant Superintendent. Errors in the Measurer's books in the extent of different kinds of cultivation in the same Number and errors in the unculturable portions of Numbers, are not, however, to be corrected. In Numbers where the Classer has made alterations in the boundary-marks, the numbering of the marks in the sketch of boundary-marks should be corrected, and a remark, showing what has been done, written and signed close by it. The entries of the whole of the Numbers should be thus compared and the errors corrected.

43. After the examination as above has been completed, the Classer's books should be examined; in the first place, by comparing the classification entered in the sketches of the Numbers with the shares of each class of soil entered near them. When this is being done, in case it is found that they do not agree, the classification entered in the sketches is to be considered correct, and the other entries are to be made to correspond. The sum of the shares, the annas entered opposite to them, the sum of these annas and the division of this sum by the sum of the shares, should then be examined and corrected if found wrong. After this, in case the Classer has measured any part of the Number, whether dry crop, rice, garden, or unculturable land, the calculations of this measurement should be examined and corrected if found wrong. The manner in which the different entries including the remarks, etc. have been written, is then

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to be examined, in order to see if it corresponds with the forms in the Rules and with the Circular Orders. Errors in this, however, are not to be corrected but noted as they are found; so that a statement of all the Classer's errors may at last be drawn up. The distances of Numbers from the village are afterwards to be examined by comparing the entries regarding them with the distances on the map. Any errors in the map are to be corrected last.

44. After the Classer's books have been examined, in case the village has been tested, reference should be made to the Assistant Superintendent to ascertain whether, in consequence of the test, any alterations are to be made in the books. If there are, then the Numbers in which alterations are to be made should be entered in a Statement, a Form for which, headed No. 1, is appended to this Section; and the remarks entered in this Statement should be written in respect of the Numbers to which they apply in the Classer's book and the signature of the Assistant Superintendent obtained to these remarks.

45. If, while comparing the Measurer's and Classer's books, any difference should be found in the unculturable acres, entered in them respectively, a Statement, according to Form No. 2, appended to this Section, should be prepared, in which only those Numbers which have a difference in the unculturable acres should be entered. The manner of preparing this Statement will be fully understood by the Form itself; and as it is not to be considered a permanent record, it is not of any consequence if corrections are made in it, still as it is to be stitched together with other records, it should be written neately.

46. A Statement, according to Form No. 3, appended to this Section, should be prepared, at the same time as that alluded to in the last para, of all Government dry crop Numbers, either entirely waste, or of which the cultivated portion may be less than one acre, and of which more than one-fourth of the whole area has been deducted as unculturable. The value of the culturable acres of each of these Numbers deduced from the Classer's rate in annas, should be entered in column 6; and the value of the whole area, at the rate of 2 annas per acre, should be entered in column 7. Then those Numbers in which the values of the whole areas, exceed the values obtained of the culturable parts only, should be considered unculturable and the areas in column 2 entered in column 8. But those Numbers in which the values of the whole acres are equal to, or less than the values of the culturable parts, should be considered culturable, and the deductions in column 3, on account of unculturable portions entered in column 8. This Rule, however, should not be applied to Inam Numbers or to Numbers wholly Parampok, or to Government Numbers in which one acre or more is cultivated. After preparing this Statement, the extent of unculturable land entered

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for each Number in column 8, should be entered for those Numbers in the Classer's book, as the real extent of unculturable acres.

47. After entering the extent of unculturable land in the Classer's books, a Statement according to Form No. 4, appended to this section, should be prepared, columns 1, 3, 4, 5, 6, 7 and 8 of which should be filled in from the Classer's books and column 2, from the Measurer's. The acres of each Number entered in the Measurer's Sud should then be compared with those entered in this Statement and the totals of the latter and also the totals of the Statement made according to Form No. 2 examined, and the differences in the amount of Measurer's and Classer's unculturable land satisfactorily accounted for. Should it appear from this process that mistakes have been made, either in the total acres or in the unculturable acres of Numbers, the Measurer's Sud and books and the Statement made according to this Rule and the Classer's books, should be compared respectively and the errors found out. These are then, if found in the Measurer's book or Sud, to be noted among errors made by him. The manner in which the process of accounting for the differences in the acres of the Measurer and Classer is to be recorded, is shown at the foot of the form for Statement No. 2. As soon as any errors, which have been detected in the course of this process, have been corrected, the sum of the acres of each page of the Statement and the sum total of all the pages, should be made, and entered accordingly; after which the 2nd Column should be examined, in order to see if all the old Survey Numbers have been entered in it, and in case any have been omitted or written twice over, a remark corresponding to that in the Form, should be written at the foot of the Statement, two copies of which should always be prepared.

48. After fixing the areas of Numbers as above, Registers, according to Forms Nos. 5 and 6 should be prepared. For these, ready ruled sheets will be provided, and as they are to be written from papers already prepared, no corrections should be made in them; nor should they be soiled in any way. The writing should be good and plain. With the exception of the rates, amount of assessment and the distance of the Numbers from the Village, these Registers should be filled in from the Statement made according to Form No. 4. The rates and amount of assessment are not to be filled in immediately from the Classer's books, but from a Darwari or memorandum of the assessment of Numbers arranged according to rates, which should be prepared according to Form No. 7. Before preparing this Darwari, the Numbers should be arranged in a rough memorandum, according to their classification rates per acre, in annas and half annas, from the Classer's book; and from this memorandum they should be entered, under their respective rates, in the

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Darwari. The culturable acres of each Number are to be taken from the Statement made according to Form No. 4. The assessment for each Number should then be calculated by means of a table which will be provided and entered in the Darwari; and the total of the acres and assessment of such Numbers as come under each rate and the sum total of the whole, should then be made. Next, in order to see whether the assessment of each Number has been properly calculated, the assessment of the total acres of all the Numbers coming under each rate should be calculated by the table and compared with the assessment previously obtained; and even if no difference should be found, or if the difference should be less than one anna, still, as a further precaution, the assessment of the odd guntas of the total should also be calculated from the table, in order to see if the assessment, with this addition, tallies exactly with the previously entered total assessment. But in case a difference of more than an anna is found in the total assessment according to the two modes of calculation, then the assessment of both the acres and guntas of those Numbers which make up the total in which the error is found should be all calculated afresh and the error corrected. In short, every precaution should be taken to prevent errors from occurring in the calculations. In those villages which have rice cultivation, the rates for rice land should be taken from a separate table, prepared with reference to the value per acre in annas, and the class of the supply of water of the rice land; and the assessment for rice land should be calculated from the rates thus found, by means of the table which was used in calculating the assessment for dry crop soil. In case there is any garden cultivation, the initial letter for it should be written in the column for unculturable acres and the culturable acres entered in the column for them; but the assessment for garden cultivation should not be calculated as the rates are to be fixed aftewards by the Superintendent. The Assessment, according to the classification rates, for dry crop and rice, having been thus calculated and entered in the Darwari, the totals for each rate should be summed up separately at foot and from this Darwari, the rate and assessment for each Number are to be copied into the Registers, which for villages having dry crop soil only are to be made according to Form No. 5, and for Villages having rice cultivation according to Form No. 6. The entries in the Registers are then to be summed up also and an Abstract, as shown in the Forms entered at foot, showing separately the total entries for Government cultivated Numbers for Government waste Numbers and also for the Numbers entered under each description of Inam land, respectively. The entries in the Classer's books of the distances of the Numbers from the villages should then be examined by comparison with the map and entered in the Registers.

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49. After the Registers are prepared, the Statement of the garden land of each Village which the Classer will have prepared from the ramarks written in his books should be compared with the books and corrected when any mistakes are found in it.

50. The mistakes made by the Classers, found and noted in the course of comparing the Measurer's and Classer's books, and examining the latter, should be entered in a Statement of errors made according to Form No. 8, and the Assistant Superintendent should be consulted as to which of the errors made in violation of the Rules and Circular Orders should be entered as small, and which as large, in this Statement.

51. The notes which have been made of the Measurer's mistakes and the three statements which the Classer may have made at the village of the mistakes in the Measurer's books, boundary-marks and map, should be shown to the Assistant Superintendent, who will decide if any of these mistakes are to be considered important. Such as he considers so are then to be entered in a separate Statement made according to Form No. 9.

52. If, in accordance with directions given by the Assistant Superintendent, any of the entries of the measurements in the Measurer's books are cancelled or altered, remarks should be written near the sketches of the Numbers in which the entries are cancelled or altered, showing the reason for so doing; and also mentioning in what book and page the correct entries are made. The signature of the Assistant Superintendent should be obtained to these remarks, as also to any remarks written with reference to alterations which may be made in the Classer's books. In short, the signature of the Assistant Superintendent should in every case be obtained to such remarks.

53. After the papers of the village are all prepared, a memorandum should be written on the first page of each of the Classer's books, to show whether the Numbers entered in it follow each other in the order of the Numbers, and the pages at which any Numbers not in this order are to be found. The examining Karkun is also to write and sign a remark to the following effect, at the end of each of the Measurer's and Classer's books:—

> "I have agreeably to the instructions in the Rules for examining papers compared the entries in this book with those in the Classer's books. I have examined the Classer's books and corrected those errors in them which it was possible to correct and I have also entered these errors and those which could not be corrected in a separate Statement."

Besides this remark, others should be written by the Examiner, below the three statements of errors which the Classer

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will have made at the Village, in regard to the errors he found in the Measurements in the Measurer's books, in the map, and in the boundary-marks, to the effect that he has corrected so many of them and that for certain reasons the others could not be corrected. He should sign these remarks also and obtain the signature of the Assistant Superintendent to them.

54. Of the records to be prepared according to this Section, those according to Forms Nos. 1, 2, 3, 7, 8, should be made of an uniform size with the records made according to Forms Nos. 2, 3, 4, appended to Chapter XI, and all the eight should be stitched together in a book, on the first page of which an index of the contents should be written.

55. As the directions given in Section II, para 40 above, relative to a diary, are applicable to the Classers also, they should attend to them.

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Form referred to in Rule (9) of para 8.

Taluk	Hobli	Village		Name of Measurer	Name of Tapasinidar	Date	Nakas tapasini Numbers	Talc square tapasini numbers	Chiller tapasini numbers	'A.' statement tapasini numbers	Nimtan, rujwat and gunakar numbers
		No.	Name								
1	2	3	4	5	6	7	8	9	10	11	12

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FORMS REFERRED TO IN SECTION II.

FORM No. 1.

Statement of Errors found in comparing the Rough and Fair Field Books and in examining the Sketches of each Number in the Fair Field Book and Map of Mowjeh.....in the..... Taluk of the.....District which was measured by..... Measurer.

Numbers		Errors in the Map		Wasla in which the error was found	Remarks
In the order of Measurement	Survey	Small	Large		
1	2	3	4	5	6
33	52	1	1	7	There is an error of 13 ans. in the breadth, and 1¼ chain in the line of boundary.
53	5	1	...	2	There is an error of 14 ans. in the distance from which the perpendicular was raised.
101	8	...	1	From 3 to 9	There is an error of 1 chain 2 ans., in the continued length of 6 Waslas.
116	25	...	...	...	There is an error of 1¼ chain in the breadth of the nulla outside the Number, taken in continuing the line of boundary of the 1st Wasla.
139	40	1	...	2 (for deducting)	There is an error of 10 ans. in the breadth.
143	50	1	...	4 (in the Measurement of interior division)	There is an error of ¦12 annas in the breadth of the 4th Wasla of the measurement of the Tank included in the Number.

I have compared the rough and fair field books and examined the Sketches of each Number in the fair field book and map of the above-mentioned village and entered all the mistakes that I found in them in the above Statement. Besides these, there are no mistakes in the map.

Date (Signed) Measurer.

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FORM No. 2.

Statement of Errors which exceed an Acre in the Area of the Numbers herein entered found in examining the Calculations of Measurements of Mowjeh.....in the..... .....Taluk of the.....District, which was measured by.....Measurer.

Numbers		Number of Waslas in the Number	The difference in each "Number" between the Acres of the Measurer and Examiner		Remarks
In the order of Measurement	Survey		Measurer's Acres less	Measurer's Acres more	
1	2	3	4	5	6
13	5	15	1 10	.....	
29	8	20	.....	1 25	
38	7	4	.....	2 2	
40	18	12	1 10	.....	
45	23	20	1 16	.....	
5	...	...	3 36	3 27	

Having examined the whole of the calculations of the Numbers of the above-mentioned village, I have made the above statement of the errors they contained.

Date (Signed) Measurer.

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FORM No. 3.

Statement of the Test made by the Assistant Superintendent and Nimtandar (Testing Measurer) at Mowjeh.....in the.....Taluk of the.....District which was measured by.....Measurer.

Numbers		Acres according to the Measurer	Acres according to the Assistant Superintendent	Acres according to the Nimtandar	Difference between the Measurer and Tester			
					According to the Assistant		According to the Nimtandar	
According to Measurement	Survey				Acres and Guntas	Difference per cent	Acres and Guntas	Difference per cent
1	2	3	4	5	6	7	8	9
4	1	10 12	10 15	.....	0 3	1	.....	...
5	8	9 8	9 18	.....	0 10	3	.....	...
6	12	20 2	20 8	.....	0 6	1	.....	...
7	3	15 16	15 5	.....	0 11	2	.....	...
10	5	5 8	5 11	5 12	0 3	2	0 4	2
13	2	10 35	11 32	11 34	0 37	8	0 39	9
14	37	12 1	.....	12 4	.....	...	0 3	1
15	38	14 5	.....	14 6	.....	...	0 1	1

I have prepared this statement.

Date (Signed) Measurer.

Explanation relative to the way in which Cols. 7 and 9 should be filled in.

The difference per cent between the original measurement and test should be entered in Column 7 or 9. The manner of finding this percentage is to multiply the Acres entered in Col. 6 or 8 by 100 and divide the amount by the Acres entered in Col. 4 or 5.

Example.

The difference between Cols. 3 and 4 "Number" 5 is 10 guntas, which, multiplied by 100, makes 25 acres, and this, divided by 9 acres 18 guntas, gives 2 acres, leaving 6 acres 4 guntas over.

The difference per cent in this "Number" is above 2 acres, and less than 3, therefore 3 per cent is entered in Col. 7.

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FORMS REFERRED TO IN SECTION III.

FORM No. 1.

Mowjeh.....Taluk.....District.....

Statement showing the Rate per Acre and the Class of the Supply of Water, fixed for the following numbers, which, in consequence of the Test, have by order of the Assistant Superintendent been altered in the Classer's Books :—

Revenue Survey "Numbers"	According to Classer		According to test		Rate and class fixed		Remarks
	Rate per acre	Class of water	Rate per acre	Class of water	Rate per acre	Class of water	
1	2	3	4	5	6	7	8
105	0 10 7	...	0 11 8	...	0 11 8	...	Six guntas reduced in the quantity of unculturable acres
127	0 13 6	0 2 6	0 11 4	0 3 4	0 12 6	0 3 0	
136	...	...	...	...	...	...	Fifteen guntas on account of unculturable portions have been deducted.

(Signed) Classer.

FORM No. 2.

Mowjeh..... .....Taluk.....District.....

Statement for the Determination of the Unculturable Land, in Acres and Guntas, (fractions of a gunta [annas] being thrown out), contained in the following Numbers, regarding which the Classer found it necessary to alter the Measurer's estimate :—

Revenue Survey "Numbers"	Unculturable land deducted by the Measurer	Alterations in the unculturable land entered by the Measurer made by Classer	Difference in the entries of unculturable acres			Additional unculturable acres not taken notice of by the Measurer but entered by the Classer.
			Below 10 per cent	Above 10 per cent		
				Less	More	
1	2	3	4	5	6	7
1	0 6 0	0 2 0	...	0 4 0	...	.....
3	.....	.....	...	...	...	16 28 0
4	0 12 0	0 25 0	...	...	0 13 0	.....
5	4 10 0	10 25 0	...	...	6 15 0	.....
6	0 11 0	0 5 0	...	0 6 0	...	5 6 0
7	.....	.....	...	...	...	0 3 0
8	8 32 0	8 33 0	0 1 0	...	...	.....
7	13 31 0	20 10 0	0 1 0	0 10 0	6 28 0	21 37 0

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140·11	Total acres and guntas in the Measurer's Sud.	Total unculturable acres in the Measurer's Sud ...	30·20
0· 5	Deduct.	Deduct ...	0·12
140· 6	Remaining.	Excess in the Measurer's Sud ... 0· 2	
0·15	Add.	Total of Column 5... 0·10	
	Found deficient in the preparation of the Sud.	Remaining ...	30· 8
		Add ...	28·29
140·21	Total acres fixed.		
		On account of errors in calculation in the Measurer's book ... 0· 4	
		Total of Columns 6, 7 ...28·25	
		Unculturable acres fixed...	58·37

Fixed Totals of the Sud.

	"Numbers"	Total Acres.	Deduct Unculturable Portions.	Remaining.
Measured.....	10	140·21	58·37	81·24
Site of Village, etc.	...	33·37	33·37	...
	10	174·18	92·34	81·24

FORM No. 3.

Mowjeh.....in the.....Taluk of the.....District.

Statement of the Survey Numbers, in which more than One-fourth of the Area has been deducted as Unculturable :—

Revenue Survey "Numbers"	Total Acres	Deduct Unculturable Acres	Remaining Acres	Classer's Rate per Acre	Assessment in annas, after adding or deducting the odd Pies	Assessment on the Acres entered in Col. 2 at 2 Annas per Acre	Acres fixed as Unculturable to be entered in the Classer's Book
1	2	3	4	5	6	7	8
3	24 8	7 20	16 28	0 2 6	42	48	24 8
5	10 25	4 0	6 25	0 2 6	17	21	10 25
6	20 8	5 11	14 37	0 8 6	127	40	5 11
8	25 2	8 32	16 10	0 9 6	154	50	8 32
9	12 32	3 11	9 31	0 13 0	124	26	3 11

(Signed) Classer.

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Form No. 4.

Statement showing the Old and New Survey Numbers, Names of Shets, etc., in Mowjeh.....in the Taluk of the.....District.

Revenue Survey Number	Old Survey Numbers	Name of Shet	Kind of Holding	Name of Karda or Inamdar	Acres according to Revenue Survey		
					Total Acres	Deduct Unculturable	Remaining
1	2	3	4	5	6	7	8
1	5 & 6 in part, 7 entire.	Of the temple of the Goddess Lakshmi.	Government cultivated	Chinbasappa *bin* Virupakshappa Naglapoor.	3 20	0 2	G. 3 18
2	5 & 6 in part ...	Of Basri Marad and of the Goddess Lakshmi.	Do do	Do do	5 20	0 20	3 20 R 1 20
3	8 ...	Of Sannappan's Mardi ...	Do parampok	.....	24 8	24 8	.....
4	1, 2, 3 ...	Of Mari Basan ...	Do cultivated	Karibasanna *bin* Omana Nundikatte.	6 3	0 25	R. 5 18
5	9 ...	Of Hul Mardi ...	Do unculturable.	.....	10 25	10 25	.....
6	13, 14, 15, 16 ...	Of Banni Marad and Kari Kunte.	Do cultivated	Ballappa *bin* Kenchappa and Nurso Ramachander.	20 8	5 11	14 37
7	12 ...	Of Dinker Pant ...	Jodi Inam ...	Shrinivas Row Venkatesh, Patel.	9 33	0 3	8 20 R. 1 10
8	17, 18 ...	Of Bural Marad ...	Government cultivated	Basvanappa *bin* Chanvirappa	25 2	8 32	15 20 R. 0 30
9	19, 20, 31 ...	Of Atti Marad ...	Do do	Narasappa *bin* Jivappa Sevapur.	12 32	3 11	9 21
10	12 ...	Of Surkiappan ...	Government waste ...	No Karda ...	22 30	5 20	17 10
10	1 to 21				140 21	58 37	D. C. 69 8 R. 8 38 G. 3 18

Nos. 4, 10, 11 of the old Survey Series are not entered, and No. 12 is entered twice. These are to be rectified in the Taluk Cutcherry.

(Signed) Classer.

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Form No. 5.

Register of the Numbers (all Dry Crop) in Mowjeh.....in the.....Taluk of the..... District according to Revenue Survey.

Number	Kind of Holding	Total Acres	Deduct Unculturable	Remaining	Value per Acre according to Classification	Amount	Distance in Miles	The Superintendent's Settlement		Remarks
							From Village	Rate	Amount	
1	Government cultivated ...	10 8	0 2	10 6	0 12 6	7 14 11	Near			
2	Government waste ...	12 2	...	12 2	0 14 0	10 8 8	½			
3	Jodi Inam	8 9	0 2	8 7	0 13 6	6 14 4	½			
4	Jodi Inam	20 21	...	20 21	0 11 6	14 12 0	½			
5	Mahal Jodi Inam	15 33	0 4	15 29	0 9 6	9 5 5	½			
6	Sarwa Inam	5 20	...	5 20	0 15 6	5 4 3	½			
7	Nowkri Inam	11 32	0 3	11 29	0 12 0	8 12 8	½			
8	Kamarisi Jodi	19 33	...	19 33	0 10 6	13 0 2	½			
9	Tahayats S. Inam	14 11	1 1	13 10	0 7 6	6 3 5	½			
9		118 9	1 12	116 37		82 11 10				
	Abstract									
2	Government	22 10	0 2							
			C.	10 6	...	7 14 11				
			W.	12 2	...	10 8 8				
2	Jodi Inam	28 30	0 2	28 28	...	21 10 4				
1	Mahal Jodi Inam	15 33	0 4	15 29	...	9 5 5				
1	Sarwa Inam	5 20	...	5 20	...	5 4 3				
1	Nowkri Inam	11 32	0 3	11 29	...	8 12 8				
1	Kamarisi Jodi	19 33	...	19 33	...	13 0 2				
1	Tahayat S. Inam	14 11	1 1	13 10	...	6 3 5				
9		118 9	1 12	116 37		82 11 10				

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Form No. 6.

Register of the Numbers in. Mowjeh.....in the.....Taluk of the.....District according to Revenue Survey.

Number	Kind of Holding	Total Acres	Deduct Unculturable	Remaining	Detail		
					Dry Crop		
					Acres	Value per Acre	Amount
1	2	3	4	5	6	7	8
1	Government cultivated	3 20	2	G. 3 18	...	...	...
2	Government cultivated	5 20	0 20	5 0	3 20	0 10 6	2 4 9
3	Government unculturable	24 8	24 8	...	...	...	...
4	Government cultivated	6 3	0 25	5 18	...	...	...
5	Government unculturable	10 25	10 25	...	...	...	...
6	Government cultivated	20 8	5 11	14 37	14 37	0 8 6	7 14 10
7	Jodi Inam	9 33	0 3	9 30	8 20	0 9 6	5 0 9
8	Government cultivated	25 2	8 32	16 10	15 20	0 9 6	9 3 3
9	Government cultivated	12 32	3 11	9 21	9 21	0 13 0	7 11 10
10	Government waste	22 30	5 20	17 10	17 10	0 14 0	15 1 6
10		140 21	58 37 G.	78 6 3 18	69 8		47 4 11
	Detail.						
9	Government	130 28	58 34 C.	51 6	43 18	...	27 2 8
			G.	3 18	...	...	...
			W.	17 10	17 10	...	15 1 6
1	Jodi Inam	9 33	9 3	9 30	8 20	...	5 0 9
10		140 21	58 37 G.	78 6 3 18	69 8		47 4 11

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FORM No. 6—*contd.*

Register of the Numbers in Mowjeh.....in the.....Taluk of the.....District according to Revenue Survey.

Number	Kind of Holding	Detail					Distance in Miles	Superintendent's Rate	
		Rice Cultivation							
		Acres	Rate of Land	Rate of Water	Rate of Rice Land	Amount	From Village	Dry Crop	Rice
		9	10	11	12	13	14	15	16
1	Government cultivated	...	...	...	...	...	1		
2	Government cultivated	1 20	0 12 6	0 2 6	2 6 0	3 9 0	1		
3	Government unculturable	...	...	...	...	...	1		
4	Government cultivated	5 18	0 12 6	0 3 6	1 15 6	10 11 8	1		
5	Government unculturable	...	...	...	...	...	1		
6	Government cultivated	...	...	...	...	...	1		
7	Jodi Inam	1 10	0 10 0	0 3 0	1 12 0	2 3 0	1		
8	Government cultivated	0 30	0 10 6	0 3 6	1 10 0	1 3 6	1		
9	Government cultivated	...	...	...	...	...	1		
10	Government waste	...	...	...	...	...	1		
10		8 38				17 11 2			
	DETAIL.								
9	Government	7 28	...	...	...	15 8 2			
		...	...	...	...	...			
		...	...	...	...	...			
1	Jodi Inam	1 10	...	...	...	2 3 0			
10		8 38				17 11 2			

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FORM No. 7.

Darwari or Memorandum of the Assessment of Numbers bearing the same Classification Rate per Acre, for Mowjeh.....in the.....Taluk of the..... .....District.

Rates and Amounts of Dry Crop Soil.

Rates	Number	Culturable Acres	Amount	Total of Amounts	Less	More
0 14 0	10	17·10	15 1 6			
	1	17·10	15 1 6	15 1 6	.....	.....
0 13 0	9	9·21	7 11 10			
	1	9·21	7 11 10	7 11 10	.....	.....
0 10 6	2 in part	3·20	2 4 9			
	1	3·20	2 4 9	2 4 9	.....	.....
0 9 6	7 in part	8·20	5 0 9			
	8 in part	15·20	9 3 3			
	2	24· 0	14 4 0	14 4 0	.....	.....

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0 8 6	6	14·37	7 14 10					
	1	14·37	7 14 10	7 14 10	.....	....		

Abstract of Dry Crop Soil.

0 14 0	1	17·10	15 1 6	15 1 6	.....	.....		
0 13 0	1	9·21	7 11 10	7 11 10	.....	.....		
0 10 6	1	3·20	2 4 9	2 4 9	.....	.....		
0 9 6	2	24·0	14 4 0	14 4 0	.....	.....		
0 8 6	1	14·37	7 14 10	7 14 10	.....	.....		
	6	69·8	47 4 11	47 4 11	.....	.....		

Rates and Amounts for Rice Land.

2 6 0	2 in part	1·20	3 9 0					
		1·20	3 9 0	3 9 0	.....	.....		
1 15 6	4	5·18	10 11 8					
	1	5·18	10 11 8	10 11 8	.....	.....		
1 12 0	7 in part	1·10	2 3 0					
		1·10	2 3 0	2 3 0	.....	.....		
1 10 0	8 in part	0·30	1 3 6					
		0·30	1 3 6	1 3 6	.....	.....		

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FORM No. 7—*concld.*

Rates	Number	Culturable Acres	Amount	Total of Amounts	Less	More
		Abstract of Rice Land.				
Rs. a. p.			Rs, a. p.	Rs. a. p.		
2 6 0	1 in part	1·20	3 9 0	3 9 0	.....	.....
1 15 6	1	5·18	10 11 8	10 11 8	.....	.....
1 12 0	1 in part	1·10	2 3 0	2 3 0	.....	.....
1 10 0	1 in part	0·30	1 3 6	1 3 6	.....	.....
	1	8·38	17 11 2	17 11 2	.....	.....
			DETAIL.			
Description of Land						
Dry crop soil ..	6	69·8	47 4 11	47 4 11	.....	.....
Rice land ..	1	8·38	17 11 2	17 11 2	.....	.....
Garden ..	1	3·18	.....	.....	.....	.....
Unculturable ..	2	.....	.....	.....	.....	.....
	10	81·24	65 0 1	65 0 1	.....	.....

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Form No. 8.

Statement of Errors found in examining the Classer's Books of Mowjeh.....in the.....Taluk of the.....District.

Revenue Survey Numbers	Classification not entered according to Sketch	Errors in finding the rate per Acre	Entries in Book not made according to the Rules and Circular Orders		
			Small	Large	Remarks
1	2	3	4	5	6
9	1	1	1	...	The name of the 'Daug' and the name of the Inamdar not written. It is now entered from the Measurer's books.

Form No. 9.

Statement of Errors of Importance made by the Measurer, found while Classifying the Soil, and examining the Measurer's Books and the Sud and Map prepared by the Measurer of Mowjeh.....in the.....Taluk of the.....District.

Names of the Karkuns in whose Work the Errors were found	Revenue Survey Numbers	Errors found
1	2	3
Ganesh Krishna, Measurer.	3	A corner mound, shown in the boundary-mark sketch of No. 6 not raised in the field.
Venkaji Bindu, Examiner of calculations.	1	A mistake of 4 guntas less in the sum of the Waslas.
Venkaji Bindu and Ganesh Waman, preparers of Sud.	8 & 10	In making the sud from the Measurer's books, a mistake of 15 guntas less in No. 8, and a mistake of 2 guntas less in the unculturable portion.
Narso Ganesh, preparer of fair map.	6	A large bend in the *nalla* not shown in the fair map.

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SECTION IV.

Examination of Resurvey Records.

(i) *Measurement.*

56. *Map Examination.*—All survey numbers newly made and all corrections carried out during resurvey operations should be examined *waslawar.* The tapasani of all other survey numbers should be made with reference to boundary marks, topographical features and other *chillar* work as noted in the Resurvey Tippan book.

The names of the Village, Hobli, Taluk, and District should be corrected, where necessary, according to the existing boundaries and doubts, if any, should be cleared by seeking the order of the officer in charge.

The Kacha and Nakal maps should be accurate and similar in all respects.

57. *Talc-square Examination.*—With the exception of new numbers, all other survey Numbers shown on the Resurvey *kacha* map should be subjected to talc-square examination for verifying the correctness of their acres recorded during the Original Survey. When the difference between the estimated and recorded areas exceed ten per cent, such numbers should be examined and corrected by Ruzvath and gunakar of Original Survey Tippan and *pakka* books.

Note:—As a rule, Survey numbers of and less than an acre in extent are not examined with the aid of talc square owing to the possibility of errors in estimating and such Numbers are therefore verified by Gunakar Calculations made in the Pakka book.

Each *tapasanidar* is required to maintain a diary in the prescribed form showing the progress and nature of work done by him in the course of talc square examination.

58. *Chillar Tapasani.*—A carefull examination of the field books and maps should be made to see whether all the entries required to be made in the resurvey tippan book have been made and whether boundary marks etc. shown in the Field book correspond with those shown in the map; and corrections made where necessary.

59. *Ruzvath and Gunakar Tapasani.*—The lambis and rundis of newly made Survey numbers as noted in the Resurvey tippan book should be compared with the entries made in the Resurvey Pakka book. The *gunakar tapasani* should follow the Ruzvath Examination.

60. *Serutiny of Entries in Pakka Books.*—When only a part of a number is corrected and measured, a note should be made in the Pakka book showing the area of that number according to Akarband and also according to Resurvey and explaining the difference between the two, if any.

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The sketches, boundary mark particulars and other entries, should be scrutinized and corrected. The areas of rivers, streams, roads, village sites, etc., should be shown at the end of the Resurvey Pakka book and totalled up by the *tapasanidar*.

61. *'A' Statement Examination.*—Statement 'A' should be scrutinized with reference to former and present area of each Survey Number and the difference, if any, should be clearly explained in the remarks column. The area of village sites, rivers, nallas, roads, etc., should be noted at the end of the 'A' Statement and totalled up so as to show the entire area of the village.

Before passing the 'A' statement, the *tapasanidar* should see that the Prati, Khaneshumari and other statements have been appended to it as required by the rules.

In the case of Malnad taluks, the *tapasanidar* should see whether the particulars relating to *coffee kharab* survey Numbers have been duly noted at the foot of the 'A' statement.

SECTION. V.

Examination of Reclassification Records.

Scrutiny of Prati or Reclassification field book.

62. The Akardar or Examiner of classification records should first satisfy himself that the classer's books have been amended according to orders passed at Nimtan or test. The old prati book should have numbers, the kind of *wahiwat*, the khatedar's or Inamdar's name, and acres, renewed in red ink according to the revision measurement or classing books. The areas under *lagan* (cultivated) and *pad* (waste) should be renewed in a similar way. The new class whether of water or of soil should be noted. Where *phod* has been made, it should be exhibited in the old *prati* book *kshetra*, that page of the *prati* book being retained for one of the numbers subdivided, and the other shown at the end of the book with all the details, unless these have been included in the revision classer's books. New *bhag annas* or *soil* values according to *phod* should be marked.

63. The revision classer's book should have *bhag annas* and distance transferred to it from the old *prati* books. *Ruzwath* and *Gunakar* of any measurement done by the classer should be gone through, showing *bab phod kshetra*, wherever necessary. Entries 4 and 6, regarding details of extent and of *kharab* should be examined as also the corresponding columns for dry numbers in measurer's tippan not dealt with by the revision classer.

64. *Pahani Sud.*—After the index is written up, the Pahani Sud must be prepared from the old *prati* book comparing it in every case with the new *prati* book in case of survey numbers re-classed. *Panwar beriz* and *watberiz* should then be attended

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to. The *ain beriz* should be the same as the measurer's 'A' Sud total acres. Any discrepancy between them should be found out by comparing *A Sud* with the *pahani sud* number by number.

65. *Kacha Darwari or Khard.*—The *khushki* numbers should be shown under their respective *bhag annas*; *Tari* to be shown under heads, number, acres, *bhag anna*, class and *kayam dar*; bagayet to be shown under number and acres; kharab numbers under number and acres. *Kayam dar* for *tari* numbers should be calculated from the *tari jantri*. Total should then be made up. *Tari* and *bagayet* acres should agree with *pahani sud* acres. Total numbers in *kacha darwari* should agree with *pahani sud*.

66. *Classing Register.*—Classing register should be written up not from *pahani sud*, but from the old and new *prati* books. *Kayam dars* for wet numbers should be calculated again from the *jantri* and not copied from *kacha darwari*. All the other entries of the register must also be taken from the *prati* books. The *bhag anna*, class and *kayam dar* entered in the register should then be compared with the *kacha darwari*. Further entries in the register should be made after the *pakka darwari* is prepared.

67. *Pakka Darwari.*—The dry numbers should first be written according to *dars* or rates. Acres should be taken from the *pahani sud*. Each *dar*, acres and number should then he totalled up, and an abstract for the whole of the dry numbers written up. Rice or wet numbers should then be taken up and treated similarly and abstracted. The total abstract of dry, rice and garden (only numbers and acres taken from the *khard*) should then be made. Under the head *kharab*, the total of entire *kharab* numbers and acres taken from *kucha darwari* must be put down. Below this, the *pot kharab* acres obtained by deducting the total area of all the dry numbers as put down in *kacha darwari* from the total *kharab* in *pahani sud*, should be entered. The *kharab* allowed for the village site, etc., referred to in the A *sud*, should then be entered and totalled up, which represents the total *kharab* in the village. The *kirdsar* numbers and acres as obtained above should then be added and the sum is the total acres for the village.

The *akar* for each of the numbers entered in the *darwari*, should be calculated from the *jantri* and put down. The totals should agree with the details.

68. *Details to be Entered in the Classing Register.*—The register should be taken up again and the akar column should be written up from the *darwari*. The numbers under *sagu* and *bilu* in the register should be compared with those of the *pahani sud*. Then *babwar* totals should be made under the following heads,

(a) Sagu, Bilu } Government,

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(b) Sarva Inam, Jodi, Service Inam, Umbli } Inam

(a) and (b) should then be totalled. The *kharab* allowed for village site, etc., should then be added and the totals should be compared with the acres entered in the A *sud*.

Then *salesal* bagayet should have its acres put down under *kalve*, whether above or below and *kapile*, and each of these under classes, Government cultivated etc., as follows: –

(B bagayet comes under *kapile*)

SALESAL BAGAYET.

	Kalve	Kapile	Wat Hukum	
Government cultivated.	Acres and guntas	Acres and guntas	Acres and guntas	The acres should be entered after the bagayet takta is examined.
Government waste	Do	Do	Do	
Inam				
(1) Jodi Inam	Do	Do	Do	
(2) Sarva Inam	Do	Do	Do	
(3) Service Inam	Do	Do	Do	
(4) Bramhadaya	Do	Do	Do	
(5) Devadaya	Do	Do	Do	
(6) Umbli	Do	Do	Do	

The total of Kapile and Kalve acres should then be put down.

69. *Bagayet Taktas.*—Bagayet takta should be examined with reference to the entries in the Prati books. The Bhag anna class and the distance should be noted down for every number. No *darsod* is allowed as in the case of dry and rice lands. Particular attention should be paid to the remarks column, where details of subdivision should be written for each and every number subdivided. Differences in the old and new *babs* should be explained; and water class, if any, found in the old *prati* book which does not find a place in the revision *prati* book, should also be noted in red ink. A remark regarding the existence of a takavi well in a Bagayet number should also be noted in the column. If there be no takavi wells at all in the village, the facing sheet of the B Takta should have a remark to that effect.

The Kalve and Kapile acres should be totalled up and transferred to the register.

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CHAPTER XV.

MISCELLANEOUS.

Inam Surveys.

Statutory Provision.—Under section 236 of the Mysore Land Revenue Code IV of 1888, Government may, on an application in writing being made by the holder of any alienated or Kayamgutta village, authorize the extension of all or any of the provisions of chapters VIII to X of the Land Revenue Code to any such village.

2. *Execution of Operations.*—The execution of operations connected with the introduction of Detailed, Valuation or Traverse surveys, and Settlements in Inam villages are entrusted to the Revenue Survey Department. The rules in force in the Survey Department are made applicable to Inam villages, when such villages are taken up for the introduction of Revenue Survey and Settlements.

3. The following rules indicate the procedure to be adopted for the introduction of Survey and Settlement into Inam villages:-

(i) On receipt of an application from the holder of an alienated or kayamgutta village, the Deputy Commissioner will cause the necessary enquiries to be made; if no objection exists to the application being sanctioned, he will take an agreement from the Inamdar in the prescribed form and forward the records of enquiry together with his report to the Revenue Commissioner who will submit the same with his opinion for the orders of Government.

(ii) When Government have authorised the extension under section 236 of the Land Revenue Code, of the provisions of chapters VIII to X of the said Code to any such village, the Superintendent of Survey shall include the work in the Survey programme and intimate to the holder the earliest date on which it will be possible for him to take it up with due regard to economy and urgency. If the taluk in which the Inam village is situated is nearly ready for revision, the operations will be made to synchronise, as far as possible, with the revision of settlement in the manner most advantageous to Government and to the Inamdar. If the revision of the settlement of the taluk is not due for a long time more, and the survey and settlement of the Inam village by itself is likely to entail undue cost and inconvenience on account of its remoteness from the tracts where the Survey Establishments are at work, the Superintendent of Survey will inform the Inamdar of the fact. Should the Inamdar

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be unwilling to have the operations postponed to suit the general programme of survey work, the Superintendent at his discretion may arrange to have the work taken up as soon as it may be convenient, on the Inamdar paying such cost as may be fixed by the Superintendent to meet the expenses of the special establishment that may have to be deputed for introducing survey and settlement into the Inam village. Such payment will ordinarily be excused when the revision settlement of the taluk in which the village is situated has taken place within the previous decade.

(iii) The holder of the alienated or kayamgutta village and the raiyats concerned shall furnish the usual help in the shape of flag-holders, erection of boundary marks, etc. And before the operations are commenced, he shall be required to deposit such sum as may be fixed by the Superintendent of Survey to cover the cost of paid labour that may have to be employed for measurement and the erection of boundary marks in case the Inamdar or his raiyats fail to render timely help. If such help be rendered, the amount deposited will be refunded to the Inamdar on the completion of the work either wholly, or if it had been necessary to engage any labour, such balance of it as may remain after defraying the cost thereof. Any sum thus expended on labour will be refunded to the Inamdar after it is recovered from the raiyats concerned through the Revenue authorities under the provisions of the Land Revenue Code.

(iv) The Inamdar or his agent and the village servants shall be bound to remain in the village during the progress of the measuring and classing operations and render every reasonable help towards the speedy completion of the work. The Inamdar will be liable for any extra expenditure that may be caused by his failure to do so or by any other neglect, delay or default on his part and the same will be recoverable as an arrear of land revenue and as a first charge on the village.

(v) As soon as the Survey Department is in a position to estimate the probable effect of the Settlement, it will intimate the same to the inamdar, who will then, have the option of deciding whether the operations should be continued and the survey rates adopted or further proceeding stopped. In the latter case, the Inamdar shall be liable for the cost of the measurement, classification and other preliminary operations that may have been carried out till then, and in default of payment, the amount will be recovered from him as an arrear of land revenue. Should the Inamdar agree to the introduction of the Survey rates, the cost of the operations will be borne by Government (unless as provided in Rule ii, the work has not been carried on in the usual course of the Survey programme) and any amount that may have been deposited by the Inamdar will be refunded to him subject to such deductions as it may be liable on account

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of paid labour or other charges which have been specially incurred.

(vi) When the application is for the introduction merely of detailed survey into the village and not of settlement also in addition, the cost thereof shall be paid by the Inamdar. In case the inamdar should apply subsequently for the introduction of settlement into the village, only such part of the cost that has been recovered from him as may remain after deducting any extraordinary expenditure that may have been caused by the delay in applying for settlement, will be refunded to him.

4. *Rates.*—(i) When the provisions of Chapters VIII to X of the Mysore Land Revenue Code are extended to Inam villages situated in taluks already settled, separate sanction of Government under section 112 of the Land Revenue Code, to the Survey rates fixed for the Inam villages may be dispensed with, provided that the rates are the same as those sanctioned for the adjacent Government villages previously settled. Exceptional cases requiring special treatment should however be submitted by the Superintendent of Revenue Survey for the orders of Government.

(ii) These rates of an original settlement in an Inam village will be current only till the expiry of the settlement then current in the rest of the taluk. The resettlement of the Inam village will take place simultaneously with the next resettlement of the Taluk.

5. *Transmission of a List of Inam Villages.*—On an Assistant Superintendent receiving orders to commence measuring operations in any taluk, he should send to the Deputy Superintendent a list of all villages entered in the Taluk Dehajada as Inam of any description and seek orders as to how they should be dealt with during the survey operations of the taluk. No action need be taken in respect of these Inam villages till the receipt of orders from the Deputy Superintendent.

6. *Resurvey of Inam Villages.*—When the resurvey operations of a taluk are ordered, any surveyed and settled Inam village therein may also be taken up for resurvey on the application of the holder, if the original Survey guarantee had expired or is about to expire within a year or two.

7. *Details of Inam.*—When Inam villages are measured, the description of the inam, *viz.*, Sarva Inam, Jodi Inam or Kayamgutta, should be noted in the field book and other records.

8. *Nature of Measurement to be noted in Inam Village Tippans.*—A remark should be written on the first leaf of the *tippan* and *pakka* books specifying the nature of the survey operation conducted therein—whether it is detail, valuation or traverse. This remark should be signed by the Assistant Superintendent.

9. *Coffee and Kharab Lands in Inam Villages.*—In surveying Inam villages in detail, all Coffee lands situated in one block

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should be constituted into a survey Number; cultivated or Kharab portions should not be included in Coffee Numbers; jungle lands should be constituted into separate Survey Numbers.

10. *Boundary Marks in Inam Villages subjected to Valuation Survey.*—In Inam villages subjected to survey for purposes of valuation only and not for purposes of settlement, it is optional with the Inamdar to retain the boundary marks. The marks on the boundaries of such villages however must be preserved.

11. *Adjustment of Boundary Mark Charges between Inam and Government Villages.*—Boundary marks situated between two Inam villages or between Government and Inam villages should be charged in equal proportion amongst the villages concerned.

12. *Bandh Peon may be Entertained when Block Survey of Inam Village is Ordered.*—The Assistant Superintendents may entertain bandh peons in connection with the block survey of Inam villages, the cost being recovered from the Inamdars in the usual course.

13. *Bandh Accounts of Inam Villages.*—In the case of valuation survey of Inam villages, *vasul patraks* should be made out in the name of the Inambar on the total *beriz*. Details number by number and the C. Statement are unnecessary.

FORM OF AGREEMENT.

Agreement made by.....

Inamdar of the village of.....

Taluk.....District.....

Whereas I have applied to Government that, under section 236 of the Mysore Land Revenue Code, 1888, the provisions of chapters VIII to X of that code may be extended to my aforesaid village of.....I do hereby for myself, my heirs, executors, and administrators agree in the event of my application being granted to the following conditions :—

1. That after my application is sanctioned, I myself or my agent will be present at the village together with the village officers during the progress of the survey and classing operations and render every reasonable help towards the speedy and satisfactory completion of the work in accordance with the directions of the Superintendent of Survey.

2. That in case the Survey work is in any way impeded either by my failure to render the aforesaid help or through my negligence or delay or otherwise and any extra expenditure is thereby caused, such cost as may be fixed by the Superintendent of Survey may be recoverd from me as a primary charge on my revenues and my holdings.

3. That in order to meet the cost of any paid labour to be entertained in the event of my or my raiyat failing to render

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timely help during the course of survey operations or erection of boundary marks, I will deposit in the taluk treasury such amount as may be fixed by the Superintendent of Survey and produce the treasury receipt for the same within fifteen days from the service of notice requiring me to deposit the sum.

The balance of the deposit, if any, after meeting the above charges should be refunded to me. But if it falls short of the cost that may be incurred by any amount, the same may be recovered from me according to law.

4. That after my application is sanctioned it shall be within the discretion of the Superintendent of Survey to fix the time for the commencement of survey operations in my village and he may, if necessary, require any extra expenditure that may have to be incurred in carrying them on otherwise than in connection with the ordinary survey programme, to be paid in advance.

5. That in the event of my not agreeing on the estimate of the probable effect of the survey and settlement being intimated to me by the Survey Superintendent to the extension of the survey and settlement to my said village, I will pay the cost of measurement, classification and preliminary operations which have been incurred as fixed by the Superintendent of Survey. In case of my failure to pay the costs, the same may be recovered from me as a first charge on my village.

6. That in case of my agreeing to the introduction of the rates fixed by the Survey Department on the conclusion of the survey operations, Government should bear the costs of the survey and settlement excepting however, the charges referred to in the foregoing paragraphs as well on the first occasion of the same being effected after the date of this agreement as also hereafter whenever any revision survey or settlement is introduced into my village by order of Government according to law.

7. That I will pay the salaries and perquisites of the village officers of the said village according to the scale and in the manner prescribed from time to time for the payment of the village officers of unalienated villages.

8. That I will from time to time at my own expense cause to be prepared and furnished with punctuality such periodical or other agricultural and vital statistics concerning the said village as may be required by the Deputy Commissioner and that in the event of my failure at any time to discharge this obligation the Deputy Commissioner may make such arrangements as he deems fit for obtaining such statistics as aforesaid and the costs which he incurs in so doing shall be a first charge on my revenues recoverable in such manner as the Deputy Commissioner may direct.

Signature.

Executed at..... .....this.....of.....19 .....

signed by..... .....in the presence of.....

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CHAPTER XVI.

Re-survey Rules and Preparation of Field Records.

Preliminary.

In these rules:—

"Survey Number" means a survey number according to the present existing Survey.

"New Survey Number" means a survey number according to the Re-survey now ordered.

And,

"Rules" mean the ordinary Measuring Rules, when not opposed to the Rules herein laid down.

A "Khate" for the purposes of these rules is an occupancy separately recognised in the village accounts and comprised in a single survey number, or a portion of a survey number. It includes sub-divisions made under the old Land Revenue Rule XXVII (1890 edition) and entered in form 1, Appendix D-1 of those rules. The term "Khate" wherever occurring in these rules does not mean the *aggregrate* of a ryot's holdings.

For the purpose of these Rules a "Sub-number" made at the Sub-Division Survey of 1892-93 shall be considered to be a "Survey Number."

1. *Records to be given to the Re-survey Measurer.*—The following are the records, papers and maps with which a measurer shall be supplied for each village, before commencing the partial Re-survey under these rules:—

i. The original survey field books both rough and fair and the original "katcha map."

ii. The sub-division survey "Sud" of 1892-93.

Note.—This record is issued in respect of villages in which the Sub-division Survey had preceded the re-measurement operations.

iii. The classification register prepared at the re-classification of wet and garden lands ordered in Government Proceedings of 5th November 1896.

Note.—This register is issued in respect of villages in which the water classification preceded the re-measurement operations as was the case in some taluks of Chitaldrug District.

iv. Two copies of the printed village map corrected up-to-date.

v. Akarband.

Of the above, the measurer shall in carrying out the following rules, adopt the most recent, thus the classification register should take precedence of the Sub-division "Sud" and the latter of the "Akarband."

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2. *Maximum and Minimum.*—For each Taluk, before commencing its "Udafa" or partial Re-survey, a maximum area to constitute a "New Survey Number" for each class of land, dry, rice or garden, will be laid down by the Survey Superintendent, as also the relative extent of each class to be taken into calculation in mixed numbers, to estimate maxima and minima, *e.g.*, one acre of rice or garden land will be considered equivalent to so many acres of dry crop land according to the mode of husbandry followed in the Taluk.

The word minimum wherever occurring in the Re-survey Rules, shall mean the minimum prescribed under Rule 71 of the Land Revenue Rules of 1901.

APPLICABLE TO ALL SURVEY NUMBERS.

3. *Scope of Re-survey.*—Each and every survey number in the village must be inspected, and

(1) either confirmed, as at present, entered in the books and maps,

(2) re-measured or

(3) sub-divided and made into "New Survey Numbers," or,

(4) if found desirable, clubbed with one or more adjacent numbers, but not without the previous sanction of the Superintendent.

4. *Bandh Pahani.*—The "Bandh Pahani" or boundary marks inspection of all "New Survey Numbers" must be carried out strictly according to rules, including of course, that of all survey numbers entered as "Kaim" under rule 5.

All boundary marks newly put up in connection with Re-survey or erected in the place of old marks that are missing should be of the size laid down in the Rules. When bandhs are merely out of repair as judged by the standard laid down in the Land Revenue Rule 77, a list of such bandhs shall be prepared in the prescribed form and forwarded to the Revenue authorities for information and necessary action.

A statement of boundary marks for each village Re-surveyed, must be prepared by the Measurer in Form No. 1 hereto appended and submitted to the Assistant Superintendent along with other records.

5. *Pot Kharab.*—"Kharab Nikal" or allowance for "Pot Kharab" must be most carefully done under the following general directions:—

(a) "Pot Kharab" as at present allowed must not be interfered with excepting when it has been converted into wet land by use of water, the right to which vests in Government.

(b) New "Pot Kharab" shall only be allowed in cases in which the land has been rendered unfit for cultivation by the action or orders of Government itself or by natural causes such as diluvion, new water way and so forth.

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(c) Steps should be taken during Re-survey to have all cattle paths ascertained and marked out on village maps as far as possible, allowing due *pot kharab* therefor.

Note i.—No road or foot path excepting those already shown in the Revenue Survey books and maps, is to be confirmed at Re-survey without the sanction of the Assistant Superintendent unless the khatedars of all the lands through which it runs agree to it and give a written mutchalika to that effect.

These restrictions do not apply to made roads.

Note ii. (*a*) *All errors to be corrected.*—All clerical errors and omissions, when satisfactorily proved to show foot paths or cattle tracks on maps, should be rectified,

(*b*) All doubtful cases must be reported for the orders of the Assistant Superintendent.

6. *Old Survey Numbers kept "Kaim."*—When a "Survey Number" is neither remeasured nor sub-divided, but remains as at present, it shall be given its proper "Chalta or current number" and remark made that the original measurement, demarcation, books and maps are "Kaim." Any changes in the "Pot kharab" under the preceding rule must, of course, be recorded.

Note I. Re-survey Tippan.—Every number Re-surveyed under this rule must be entered in the re-survey tippan (field) book in form No. 2 hereto appended.

Note II. Particulars to be written in malnad.—In malnad taluks, the supplementary particulars mentioned in Appendix 3 shall also be noted in the resurvey tippan books.

When Survey Numbers must be Re-measured.—Generally, no re-measurement should be made when a "Survey Number" is obviously in tact as to demarcation, field books and map; in short, the greatest care should be taken to avoid any unnecessary re-measurements. It must be, however, distinctly understood that the rules relating to re-measurement cannot provide for all contingencies, and that all omissions and errors in original measurement must now be rectified.

Re-measurement must be made in the following cases:—

7. *Survey Numbers adjoining High Roads or Channels.*—When a survey number adjoins a high road or channel, the proper margin to which has never been deducted.

8. *New Roads, Channels, or Railways.*—When new roads, new channels or new railways have not at, or since, the original measurement been measured according to rules.

9. *Survey Number adjoining a River or Stream.*—When a river or stream adjoins a "Survey Number" and there has obviously been a change of boundary either from alluvion or diluvion, or from encroachment.

The number must not be re-measured simply because it adjoins a river or stream, but only if some charge has taken place,

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Alluvial Lands.—If the alluvial land is actually under cultivation by the holder of the adjoining survey number, it should, if it does not exceed 20 guntas in extent, be included in that survey number. If the alluvial land exceeds 20 guntas and also exceeds one tenth of the area of the adjoining number it shall whether cultivated or not, be made into a new survey number to be disposed of under the provisions of the Land Revenue Code. If it be within 20 guntas and also within one tenth of the area of the adjoining survey number and is not under cultivation, it need not be taken any notice of.

10. *Village Site.*—When a village site adjoins a survey number and has obviously been extended, either by authority or usage.

In the latter case a report should be made to the Assistant Superintendent, but the area thus extended shall not be added to the village site, except under orders of Government, or with the written consent of the khatedar or Inamdar concerned.

11. *High Roads in Kharab Numbers.*—When a high road runs through a large "Kharab" number of poor quality, never likely to be cultivated, it will suffice to show its position by dotted lines; no new survey number need be made.

12. *Reserve under tank bunds.*—When the margin prescribed to be left uncultivated below tank bunds has not been excluded.

13. *Assignments for Public Purposes.*—When assignments of land for any public purpose have been made and have not already been dealt with, the necessary "Kharab nikal" under rule 5, must be made or if necessary, a new survey number formed.

Explanation.—Temples, wells, burial grounds, Government or charitable public "Gund topes" for which pot kharab has been allowed at the original survey, or which have been assigned by proper authority, may be made into separate survey numbers, only if the khatedars concerned agree to it by a written muchalika.

14. *Mixed Numbers.*—In Revenue survey numbers containing mixed descriptions of land, *e. g.*, dry, rice, or garden, when each description cannot be made into a separate survey number under the rules, the necessary re-measurement should be made and *bab phod* shown in the re-survey tippan books. If a mixed rice and dry crop survey number, contains only small patches of dry land here and there, within an area of 5 guntas in all, it may be confirmed as it is, without any re-measurement in the field; but if the whole extent has been brought under cultivation by the use of Government water, the whole number should be considered as rice.

RE-MEASUREMENT OF MIXED NUMBERS IN MAIDAN TALUKS.

15. *In Maidan Taluks.*—(1) When there are three descriptions (dry-crop, wet and garden) of land in the same survey

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number. two descriptions out of them, the smallest or the most easily measured as the case may be, should be measured and shown in the field book, the area of the third description naturally determining itself;

(2) When there are only two descriptions in the survey number, the smallest or the most easily measured description need alone be measured and shown in the field book, the other description determining itself;

(3) All *patasthal*, *motasthal* and *wathukum* bagayets whether entered in the village accounts or not, should be measured as garden land, provided that no new *mostasthal* garden under 5 guntas, or new dry garden containing less than 20 cocoanut trees per acre need be noticed;

(4) The whole of the recorded area of rice land in a mixed survey number as per Akarband, should be considered as rice, although a part of it may be lying waste or cultivated with dry-crop at the time of Re-survey, if the land is irrigable by the water of any Government tank or other irrigational work.

(5) Dry-crop land on which permanent *nirsardi* (water-rate) is being levied must be treated as rice.

(6) No rice cultivation, either new or in excess of the area recorded in Akarband, dependent upon rain water need be noticed during Re-survey of Maidan Taluks.

(7) Where dry land has been irrigated by means of a tank or *katte* constructed at the expense of the khatedar, the irrigated portion, though measured for statistical purposes will be confirmed as dry land.

(8) If in survey numbers entirely garden or rice portions are converted into dry crop or are lying waste for want of water, *babphod* has to be made according to actual *wahiwat* and recorded in the re-survey *tippan* books.

Re-measurement of Mixed Numbers in Malnad and Semi-malnad Taluks.

16. *In Malnad and Semi-malnad Taluks.*—(1) Where entirely new bagayet is formed in any survey number, which had on bagayet at all, it must be measured and shown as garden if the extent is 3 guntas and above.

(2) Changes in recorded area of bagayet whether by expansion or contraction of cultivation should be brought to book if the difference amount to 3 guntas and above. Differences of less than 3 guntas should not be noticed.

(3) When new rice land has been formed in any survey number in addition to the rice land already recorded, or if it has been formed out of dry or kharab in a survey number which has no rice land recorded, the excess or new rice, need not be noticed if it is less than 20 guntas in the case of purely rain fed rice and 10 guntas in the case of rice irrigated from a Government tank or other work of irrigation.

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All other new or excess rice cultivation must be measured and shown in re-survey tippan books.

(4) If in a survey number wholly or partly recorded as rice land, any portion or the whole extent is lying waste or overgrown with jungle, owing to insufficiency of rain-fall or any other adequate cause, the portion so lying waste or covered with jungle, must be measured and reported to the Assistant Superintendent for orders.

WHEN "SURVEY NUMBER" SHOULD BE SUB-DIVIDED AND MADE INTO NEW SURVEY NUMBERS.

17. *Land dependent on Government Water to be Separated.*—In all mixed survey numbers, any rice or garden land dependent upon Government water must be separated and made into a new survey number, if such land is not less than the prescribed minimum, provided that the dry portion left by this separation, is also not less than the minimum and is in one block.

18. *Free Grazing, Soppinbetta, Kan and Jungle to be Separated.*—Kharab Revenue Survey Numbers in malnad, containing two or more of the following descriptions of land:—

(1) free grazing,
(2) soppinbetta,
(3) Kan or
(4) jungle,

are to be sub-divided and made into new survey numbers, so that no two of the above descriptions, as entered in the settlement papers or village khetwar patriks, shall be left together in the same survey number, provided that the different descriptions can be identified in the field. If no such identification is possible, the numbers may be left as they are.

19. *Small Unoccupied Rice Fields Situated in the Midst of Large Kharab Survey Numbers.*—Small rice fields not in private holding situated in the midst of large kharab survey numbers, if covered with thick jungle and not likely to be ever required for cultivation, may be included in the surrounding kharab numbers.

20. *Unauthorised Cultivation Found in Kharab Survey Numbers to be Reported to Deputy Superintendent.*—If in measuring or breaking up large kharab Revenue survey numbers, unauthorised coffee, rice or garden cultivation should be found, a report of it must be made to the Assistant Superintendent for orders who will after verification, report the case in due course to the Deputy Superintendent for communication to the Revenue authorities.

21. *Makki Lands.*—High-lying rice land locally known as "makki" may be separated from low-lying or "thaggu" land, if the khatedars so desire, regard being had to the minimum prescribed in the Land Revenue Rules.

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22. *Minimum Khates to be made into Separate Survey Numbers.*—Every "khate" of greater extent than the minimum, *situated in one block* shall be made into a "New Survey Number."

Exception (1) *Sub-division of khates in a Survey Number held by the same individual.*—When there are two or more khates in a survey number above the minimum, all held by one and the same individual, the number may be left as before, if the khatedar objects to the sub-division. A written munchalika embodying his objection must be obtained from the khatedar and submitted for orders of the Assistant Superintendent.

(2) *Sub-division of Khates Comprised in a Government Waste Survey Number*—When all the Paiki numbers comprised in a survey number are Government waste, the number need not be sub-divided, except when such portions are separately applied for as provided for in Rule 30.

(3) While carrying out this rule in long *Patti* survey numbers, if any new number happens to be less than 5 chains in width no sub-divisions need be made whether the khate is above or below the minimum.

23. *Small Khates remaining to be Clubbed*—When in giving effect to the preceding rule, a khate has been made into a "New Survey Number" and there remains in the same survey number, a khate of less extent than the minimum, it also shall nevertheless be made a New Survey Number, provided however that if two or more small khates thus remain over they may be comprised in one "New Survey Number" if they adjoin. If they do not adjoin, they must, perforce, be each made a "New Survey Number."

24. *Khates above Maximum*—When a khate is of greater extent than the maximum, it may, but only if the khatedar so desires *and gives a written muchalika consenting to the sub-division*, be made into two or more New Survey Numbers as prescribed in these rules.

25. *Occupied and Government Waste to be Separated*—Under the authority of the Land Revenue Rule XXVII of 1890, certain sub-divisions of survey numbers have been made and duly entered in Form No. 1. Appendix D—I to those rules and a copy of such form is kept by the Shanbhog in each village. The following special directions apply to such sub-divisions:—

(*a*) As the right of relinquishment was conceded in the case of these sub-divisions, a "survey number" may possibly contain some sub-divisions which are occupied and some which are un-occupied. In such a case the unoccupied sub-divisions must be made into "New Survey Numbers," even if of less extent than the minimum.

NOTE 1.—Written muchalikas should be obtained by the measurer from the village Shanbhogs and Patels that no such numbers

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not dealt with under this rule by the measurer exist in their respective villages; thse muchalikas should be attached to the classing Registers for ready reference at the time of Settlement.

NOTE 2.—In all cases of separation of occupied portions from Government waste included in the same survey number, mnchalikas must be obtained from the khatedars cancerned to the effect that the division has been effected strictly according to actual enjoyment.

NOTE 3.—In some instances sub-divisions will be found to have been made in unoccupied assessed waste and granted for cultivation: in these cases the occupied and waste portions must each be separately made into "New Survey Numbers" under these rules.

NOTE 4.—Sub-divisions will be found to have been made in "Khrab Survey Numbers." These will have to be made into "New Survey Numbers."

26. *Occupancies Granted by the Revenue Authorities*—All occupancies granted by the Revenue authorities and not brought into account in the "Akarband" must be made into "New Survey Numbers" under these rules.

27. *Constitution of Survey Numbers in Tank Beds or in Adjacent Kharab Numbers*—No cultivable numbers are to be newly made during Re-survey, either in tank beds or in other kharab lands in the vicinity thereof, without the special sanction of the Superintendent. Lands in tank beds temporarily granted for cultivation by the Revenue authorities, should not be noticed during Re-survey, the original kharab being confirmed as per Akarband, unless the tank bed has been abandoned under proper authority. Such cases should invariably be reported to the Assistant Superintendent and orders obtained.

28. Where the existence of cultivation in the bed of tanks is likely to be attended with injury to the tank (on which point the opinion of the Deputy Commissioner and Executive Engineer should be final) steps should be taken during Re-survey to have the land in any existing survey number, so lying within the contour line, excluded from such survey number, if compensation has been paid to the occupant; otherwise the facts should be intimated to the Revenue authorities. Occupied lands should not however, on the ground of their being liable to sub mersion by tank water, be treated as kharab and excluded from the holdings during Re-survey, without the occupant's concent in writing, or without the lands being formally acquired under the provisions of the Mysore Land Acquisition Regulation, VII of 1894.

29. *Civil Court Decree*—Every Sub-division effected under decree of any Civil Court must be made a "New Survey Number" subject to the provissions of Section 122 of the Land Revenue Code.

30. *Government and Inam Khates must be Separated.*—Government and Inam "Khates" must be separated when possible and each made a "New Survey Number" under these rules.

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31. *Sub-division of large Survey Numbers.*—It is not permissible under these rules to make "New Survey Numbers" for purposes of sale, transfer, and relinquishment, but only if there is already a khate separately recognised in the village accounts. When, however a khate is so large as to come under rule 23 above, "New Survey Numbers" may be made even for the above purposes, provided that all parties give a written agreement and point out the desired boundaries in the field, and that no "New Survey Number" is less than the minimum.

32. *Sub-division of Large Unoccupied Survey Numbers.*—Large "Survey Numbers" consisting of unoccupied assessed waste or unassessed kharab, likely to be required for cultivation and not specially reserved for any public purpose, may, in fact it is desirable that they should, be made into two or more "New Survey Numbers" of not less than the minimum. If it is very unlikely that such "survey numbers" will ever be required for cultivation they should be left as they are and not sub-divided.

33. Where there is a real demand for cultivation in any village, lands assigned as Gomal, may be divided during Re-survey, into "New Survey Numbers" of convenient sizes ranging from the minimum to double that extent if the Assistant Superintendent is satisfied that the remaining extent of Gomal, will suffice for ordinary requirements of the village *in accordance with the principles laid down in Chief Commissioner's Proceedings No. G. 5877—Revenue 125 dated 22nd February 1869.*

No such sub-division must be ordered under this rule if the survey number contains any appreciable number of date trees.

34. Gomal and other kharab numbers sub-divided at the request of the villagers should be entered as Government waste in Re-survey records, noting down the name of the person at whose request and expense the sub-division was effected.

35. If the raiyats are unwilling to erect boundary marks of such new survey numbers, under the fear that the right of occupancy of these numbers may be sold by auction by the Revenue authorities, the Assistant may, after obtaining sanction, put on paid labour for erecting the boundary marks.

36. *Finally Demarcated State Forests to be Constituted into New Survey Numbers.*—State Forests finally sanctioned by Government and duly demarcated must be made into separate new survey numbers, one for each village.

While measuring lands included in State Forests, existing forest demarcation boundaries should invariably be followed during Re-survey.

37. *Pardi Numbers.*—No new Pardi numbers are to be made in village sites during Re-survey, either in Maidan or in malnad.

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But all old Pardi numbers brought on to the Akarband at Settlement or other time should be brought under Re-survey.

38. *Field Boundaries Varying with Actual Wahiwat.*—When a "New Survey Number" is made under any of these rules it must not contain part of one "survey number" and part of another "survey number." But when there has been a slight change of "wahiwat" on the boundary of two survey numbers and this "wahiwat" is of long standing and admitted by the khatedars, this rule, so far, may be waived and the boundary fixed according to actual occupancy. This provision only applies to small differences of boundaries within four annas.

39. When in sub-dividing a survey number, under rule 24 or rule 31, it is possible to make each kind of cultivation, dry, rice or garden, into a "New Survey Number" of its own, this should be done but not against the wishes of the khatedars.

40. *Attendance of Persons.*—Whenever re-measurement is made or "New Survey Numbers" formed, under these rules, all parties interested must attend, and the village officers must also attend, their names being duly entered in the tippan books. This provision also applies to "survey numbers" inspected under rule 3.

41. *Phode according to Existing Badavus.*—In carrying out Sub-division under these rules, the measurer small make the boundaries of the "New Survey Numbers" according to existing "Badavus" or cultivation ridges. He shall not run his boundaries wantonly through garden or other cultivation. He shall, in short, consult the convenience of the khatedars in every way possible, consistent with the rules.

42. *Re-survey Maps.*—The new village map should be made as complete as possible up-to-date, showing by the usual symbols, all streams, large trees, houses, wells, kuntes, etc., omitted at the original measurement, or since sprung up.

The main channel from the sluices of tanks must invariably be shown on village maps during Re-survey as also all permanent wells.

43. During Re-survey measurers should examine in the field all the village boundaries and note the result on Re-survey maps. The Assistants have to test one or two boundaries both in the field and during Barsathi.

44. New village maps should be ready for issue as soon as possible after the revision settlement, as otherwise the identification of new survey numbers and the conduct of Bandh Pahani by the Revenue Department will be practically impossible.

45. Old survey numbers, *re-chalta* and Re-survey numbers must all be shown distictly in the Re-survey *katcha* maps. Where

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the space is insufficient owing to smallness of survey numbers, they must be plotted on double or larger scale if necessary, and all the details together with the *chillar* work, if any, shown in them according to rules.

46. All new tanks, roads, railways, etc., formed since the original settlement have to be shown in red ink not only on the Re-survey maps, but also on the copies kept in the taluk and by the village officers, for purposes of reference.

Special Returns.

47. The following statements have to be prepared for each village, coming under Re-survey:—

(1) 'A' Sud or 'A' statement in form 5 appended with the supplementary statements (a), (b), (c) and (d) applicable to malnad taluks only (*vide* app. 3).

(2) 'B' statement to be compiled from the village Kaneshumari account, form 6 appended.

(3) Statement showing the survey numbers to be reclassed in maidan and malnad in the forms 7 and 8 appended.

(4) An abstract statement of survey numbers dealt with during Re-survey in form 9 appended.

(5) *Gunakar* and *Nakas Chook Yadis* as per forms 10 and 11 appended, to be prepared during Barsathi.

48. *Coffee Survey Numbers.*—(1) All coffee survey numbers in the malnad should be entered in the *prati* lists whether actually planted or kept *banjar*.

(2) If any rice cultivation or Dhruvapairu bagayet is formed in the midst of coffee numbers, it need not be made into a separate survey number, but the approximate extent and the source of water supply should be noted in the Re-survey field books. If Government water is being utilized, necessary information should be given to the Revenue Department with a view to steps being taken for recovering the prescribed water rate.

(3) All the coffee lands should be shown as kharab, the total survey numbers and extent of such lands being noted at foot of the 'A' statement referred to in rule 47.

49. *Inam Survey Numbers.*—The Re-survey of all Inam survey numbers must be carried out just in the same manner as in the case of Government lands.

(2) All new and excess rice and garden cultivation by the unauthorised use of Government water must be brought to the notice of the Revenue Department, by the Assistant Superintendent as soon as the *barsathi tapasani* is completed.

50. *Procedure to be Adopted in the Case of Date Reserves.*—(1) Before the Re-survey of a taluk is commenced, a list of date reserves, should be obtained, either from the Amildar of the taluk or the District Excise Officer.

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(2) Extracts from this Register for each village should be sent to each measurer with instructions to scrutinize them during Re-survey and verify the number of trees entered therein, all the errors discovered being duly noted.

(3) When applications are received for sub-division of survey numbers entered in the list of date reserves, the measurers, after inspecting the land, have to submit to the Assistant Superintendent, a detailed report together with a sketch of the land applied for.

(4) If the Assistant is satisfied, after personal inspection, or when necessary on a reference to the Excise Department, that there is no objection to sub-divide the land in question, he may order such sub-division, subject to the disposal of the lands applied for, at the time of Re-settlement.

51. *Dry Bagayet Lands.*—(1) The extent of all old Dry bagayet should be confirmed in accordance with old circular orders as regards the number of cocoanut trees per acre and their disposition in the field.

(2) New Dry Bagayet should be reckoned as such during Re-survey and re-classification, only if,

(*a*) there are not less than 20 trees in all in a survey number, and also

(*b*) if the number of trees per acre in the area proposed to be classed as Dry Bagayet, be not less than 20.

If however the trees are closely situated in a portion of the field, while in the remaining portion they are much dispersed so as not to fall under (*b*) above, only so much of the field as is closely planted should be considered as Dry Bagayet.

(3) A survey number containing trees growing along the boundary should not be taken as Dry Bagayet, though they may not be less than 20 in number.

(4) Where old bagayet in a survey number, is now extended, the number of trees in the old bagayet area, should satisfy the rules governing dry bagayet of the Original Survey as re-affirmed in para (1) above. But if any of the extended area is to be treated as bagayet, care should be taken to ascertain that the conditions laid down above anent new dry bagayet, have been fulfilled.

APPENDICES TO RE-SURVEY RULES.

FORM NUMBER.

1. Statement of boundary marks (Rule 4).
2. Re-survey Tippan (Rule 6).
3. Particulars to be written in the Tippan book in the Malnad Taluks (Rule 6).
4. Index of Survey Numbers Re-surveyed, note under form 2.

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5. 'A' statement, *i.e.*, Statement of all the survey numbers Re-surveyed accompanied by enclosures in the case of Malnad villages:—

(*a*) Statement of rice lands.
(*b*) Statement of garden lands.
(*c*) Statement of tanks.
(*d*) Statement of nalas.

6. 'B' Statement, *i.e.*, Khaneshumari (Rule 47).

7. Statement of Survey Numbers to be re-classed in Maidan Taluks. (Rule 47).

8. Statement of Survey Numbers to be re-classed in Malnad Taluks (Rule 47).

9. Abstract Statement of Survey Numbers dealt with during Re-survey (Rule 47).

10. Gunakar chook yadi.

11. Nakas chook yadi.

FORM No. 1.

Total numbers Re-surveyed	Bandhs				Stones			Remarks
	In repair	Disrepair	Entirely missing	Total	In repair	Entirely missing	Total	

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FORM No. 2.

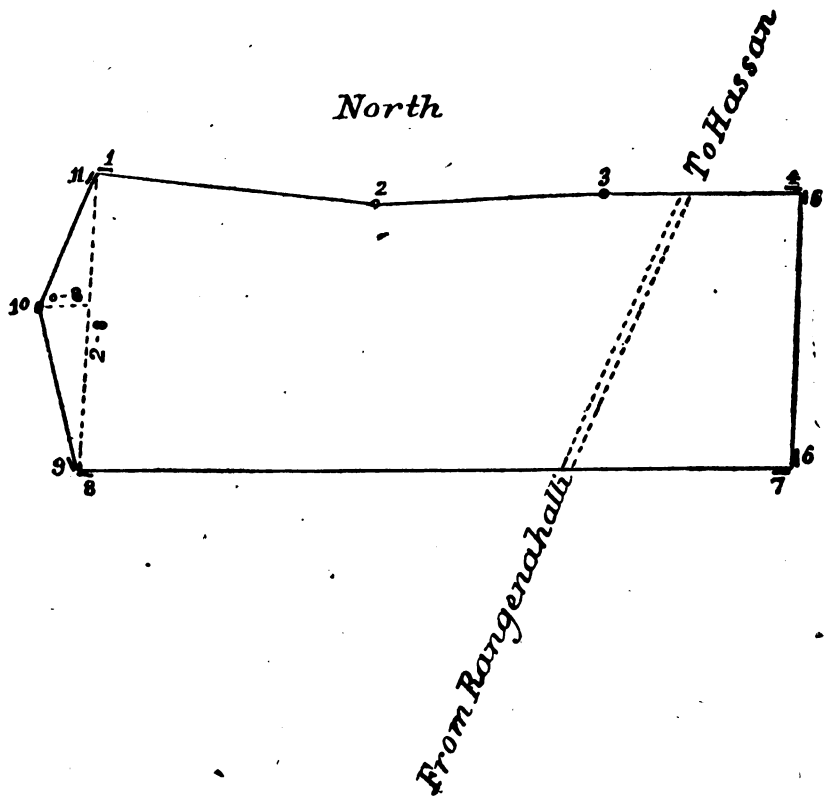
Date:—

Persons present.

1. Patel, Ramegowda.
2. Raiyat, Thimmappa.
3. Shanbhog, Ramanna.
4. Raiyat, Ranganna.

Re-chalta Number Government Dry Old Survey Number
Re-survey Number Old Chalta Number.

	Total	Kharab	Remaining
Extent as per Akarband	6-10	0-10	6-0
Extent as per Re-survey	6-10	0-10	6-0



		Bhands	Stones
In repair	...	1.4.5	2·3
In disrepir	...	6.7.8	...
Entirely missing	...	9·11	10
New ...	...	...	...

1. This number is *kaim* as the field at present corresponds with the original tippan and map.

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(Any sub-divisions or corrections ordered during Re-survey must be entered here.)

2. Boundary marks.

Marks numbers 9·10 and 11 have been fixed with reference to the original tippan book.

Marks numbers 6·7 and 8 have been entered in a separate list. (Note:—Missing stones should as far as possible be fixed by taking *lambis* and *rundis*. Where this is impossible owing to obstructions, etc., they have to be fixed by taking at least 3 boundary measurements or *map*).

3. *Pot kharab.*—Pot kharab of 10 guntas as per Akaband allowed for a cart track is hereby confirmed, the present measurements being, Lambi 16 chains X Rundi 10 annas=160 square annas or 10 guntas.

Inspected for Pakka Pahani.

Name:—

Date:—

[With a view to facilitate references, an index of all the numbers dealt with during Re-survey should be written up in the first page of every tippan and prati book by the measurer or classer concerned in form No. 4 appended].

3. *Additional particulars to be written in the Re-survey Tippan books of Malnad Taluks.*

I. Regarding Tanks.

(1) Who built the tank.

(2) State of the tank bund, whether it is rivetted with stone or is a mere earthen bund.

(3) Number of sluices, how built, whether in repair or leaky.

(4) If the tank has since been repaired, when and at what cost.

Note.—If the capacity of the tank has been increased at a considerable outlay, since the original settlement by raising the *kodi*, a special report should be submitted to the Assistant Superintendent with the statement of the Patel and Shanbhog so that steps may be taken for having the water class revised.

(5) Whether there is water in the tank, and if so, how long does it last. If there is no water, when did the tank dry up.

The above particulars should be written for all tanks, whether situated in survey numbers or portions thereof.

II. Regarding Channels and Talapariges.

(1) The source of the channel or Talaparige.

(2) If there is a dam or anicut, is it built with stone and mortar, or is it a mere earthen dam?

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(3) The condition of the channel or dam.

(4) Whether there is water in the channel and if so, how long does it flow, if no water, when did it dry up?

(5) If the channel has since been repaired, when and at what cost? If the supply of water, is materially increased by such repairs, a special report should be submitted to the Assistant Superintendent, with the statement of the Patel and Shanbhog for steps being taken to revise the water class.

III. Regarding Wells.

(1) Whether the well is built with stones or is a mere earthen *gundi*.

(2) How long does the water last?

(3) How is the water being utilized for irrigation, by means of *piccota* or *kapile*?

(4) What survey numbers are irrigated by the well?

IV. Regarding Rice Lands.

(1) Where does the water come from? If from a tank, write down its survey number; if from a nala or talaparige, where is it situated? If rice is grown from percolation or rain water, a note must be made to that effect.

(2) Whether there is *wahiwat* of growing sugarcane. If there is any such crop standing in the field, mention the approximate area.

(3) If a survey number recorded as rice or a portion thereof is actually lying waste or covered up with jungle for want of water owing to deficiency of rain fall since the original settlement, the fact must be specially reported for orders of the Assistant Superintendent.

(4) Owing to the breach of any tank or the disrepair of a nala, if any rice land is lying waste, or is being cultivated from rain water alone, the fact must be reported to the Assistant Superintendent for orders.

(5) In the case of a rice land partly dependent on Government water and partly upon rain, if the latter is lying waste for want of sufficient rain fall, a special report should be submitted showing *in red ink* the portion dependent upon Government water in the sketch of the Re-survey tippan book.

V. Regarding Bagayet Lands.

(1) *Particulars of Crop.*

If areca or cocoanut constitute the crop, the number of trees must be counted and noted in the tippan book under the three heads:—Big, Middling and Seedlings. If it is impossible to count the number of trees in the whole survey number, those standing

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in a gunta of average garden may be counted and the total number in the field deduced therefrom.

Other crops *e.g.* plantains, betel-leaves, cardamoms, pepper etc., have simply to be mentioned.

(2) *Water Supply.*

If the garden is dependent upon a tank or channel, the survey number in which the tank is situated, or the name of the nala should be written.

If the water supply is from a well, the particulars mentioned in III above should be written. If the garden is depending upon sub-soil moisture alone, the fact must be mentioned.

If any garden has materially deterioated, or is lying waste, or cultivated with rice owing to the failure of water supply, negligence or other cause, the fact must be reported for orders of the Assistant Superintendent.

VI. Rice and garden lands formed out of dry and kharab numbers, subsequent to the original settlement, and brought on to Akaraband at rates specially sanctioned, must be reported for orders.

VII. New gardens formed out of dry and rice lands subsequent to the original settlement, and not brought on to Akarband must also be reported for orders.

VIII. Statements in the forms, Nos. 7, 8, 8A and 9, appended have to be compiled for each village and affixed to the 'A' statement according as the taluk is Maidan or Malnad.

[For instructions regarding the monsoon examination of this work *vide* CHAPTER XIV Section (IV) *Supra*].

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FORM No. 4.

Index of Survey Numbers Re-surveyed in.....Village Hobli,..... .....Taluk.

Re-chalta number	Re-survey number	Old Survey number	Old chalta number	Page

The entries in this form should invariably be found in the first page of the *tippani* book.

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FORM No. 5.

A. STATEMENT.

Resurvey Sud Patrak of.....Village.....Hobli.....Taluk.....District. 192

According to Re-survey							According to Original Survey									
Serial number of new Survey numbers	Total extent acres	Kharab acres	Remaining				Survey number	Sub-number	Details taken from the Akarband, Sub-Division Sud or classification Register	Total acres	Kharab acres	Remaining				Remarks
			Dry	Wet	Garden	Total						Dry	Wet	Garden	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

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FORM No. 6.

B. Statement.

Agricultural Statistics of.....Village.....Hobli.....Taluk.....District.....19.....

Name of village and Majra	Houses				Population							Cattle								Ploughs drawn by					Carts				Wells			
					Males			Females																								
	Tiled	Mud	Thatched	Total	Agriculturists	Cooly labourers	Others	Agriculturists	Cooly labourers	Others	Total	Cows	Bullocks	She-buffaloes	He buffaloes	Calves	Horses	Donkeys	Total	2 bullocks	4 bullocks	6 bullocks	8 bullocks	Total	Halli	Chakra	Waddar	Total	Irrigation	Others	Total	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

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FORM No. 7.

Statement of Survey Numbers to be Re-classed in Maidan Taluks.

Village.....Hobli.....Taluk.....District.

	Old Sur. No.	Beehalta No.	Re-survey No.	Whether it is wholly rice or wholly bagayet, or mixed; if mixed, of what descriptions or babs	Survey number sub-divided and formed out of unassessed khrab numbers, on the application of ryots	Remarks

FORM No. 8.

Statement of Survey Numbers to be Re-classed in Malnad Taluks (1).

Village.....Hobli.....Taluk.....District.

New gardens of and above 3 guntas in extent, not entered as such in the akarband				Numbers sub-divided and formed out of dry or kharab numbers after the original settlement or for wet garden cultivation and brought on the akarband as such				Numbers given out for dry or wet cultivation out of kharab lands				Numbers given out for garden cultivation out of dry or wet lands, after the survey settlement, by the Revenue Department, but not brought on the akarband				Remarks
Re-chalta No.	Old survey No.	Re-survey No.	Extent Acres, Guntas	Re chalta No.	Old survey No.	Re-survey No.	Extent acres, guntas	Re-chalta No.	Old survey No.	Re-survey No.	Extent acres, guntas	Re-chalta No.	Old survey No.	Re-survey No.	Extent acres, guntas	

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FORM No. 8 A.

Survey Numbers to be Included in the Prati List according to the Orders of the Assistant Superintendent.
Statement of Survey Numbers to be Re-classed in Malnad Taluks (2).

Village.....Hobli.....Taluk.....District.

Survey numbers entered as Bagayat in the akarband, but lying waste or converted into dry or wet for any reason whatsoever				Survey numbers getting a better supply of water consequent upon the improvement of the source of supply at great cost				Survey numbers to which water supply has failed owing to breach of tanks or disrepair of channels or which are entirely dependent upon rains				Survey numbers shown as wet in the akarband which have ceased to be under such cultivation and are overgrown with jungle on account of the failure of water supply				Survey numbers, a portion of which has been shown in red ink as receiving the supply of water from a Government source of irrigation for wet cultivation, the other portion which depended upon rains, having ceased to be cultivated with rice owing to the failure or insufficiency of the rains			
Re-chalta No.	Old survey No.	Re-survey No.	Extent acres, guntas	Re-chalta No.	Old survey No.	Re-survey No.	Extent acres, guntas	Re-chalta No.	Old survey No.	Re-survey No.	Extent acres, guntas	Re-chalta No.	Old survey No.	Re-survey No.	Extent acres, guntas	Re-chalta No.	Old survey No.	Re-survey No.	Extent acres, guntas

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FORM No. 9.

An Abstract Statement of Survey Numbers dealt with during Re-survey.

Taluk	Hobli	Village	Total survey numbers as per Akarband	Total survey numbers as per Re-survey	Old survey numbers in which corrections are made

FORM No. 10.

Statement showing differences of more than one acre in the total areas of survey numbers, observed during the examination of gunakar (calculations) of measurer.....who Resurveyed the.....Village .....Taluk, between his gunakar and that of the Tapasanidar.

Number		All was—las of the No.	By how much is the area ascertained by the Tapasanidar more or less than that computed by the measurer		Remarks
Chalta	Survey		Less, acres, guntas	More, acres, guntas	

I have prepared this statement after examining the Gunakar and totals according to the standing instructions in this behalf.

Measurer. *Asst. Superintendent.*

R.S.M. U

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Sur. 13.] FORM No. 11.

NAKAS CHOOK YADI.

Village.....Taluk.....District.....

Statement of mistakes found in map in the course of Tapasani of Tippan book, Pakka book, Ruzwat and Sketch in Pakka Book.

Number		Mistake in map		Wasla wherein mistake is committed	Remarks about the mistake
Chalta	Survey	Small	Big		
1	2	3	4	5	6

Measurer.

Asst. Supdt., Rev. Survey.

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CHAPTER XVII.

Re-classification Rules and Preparation of Field Records.

The following special rules for the re-classification of lands, supplement the original classification rules. As a rule, the original classification of the soil is not disturbed or altered, but the water classification of the rice and garden lands is revised on the basis of the water supply as it now exists :—

1. *Scope.*—The following lands must be re-classed as to water supply in Maidan Taluks :

(*a*) *Wet Lands.*—All wet Survey numbers depending upon any source of irrigation, the right to which vests in Government.

(*b*) *Gardens.*—Garden survey numbers falling under any of the following heads :—

(1) Patstal gardens.

(2) Old Motstal gardens, the wells of which are indirectly benefited by reason of favourable situation.

(3) (*a*) Old Motstal gardens dependent upon wells not situated in any atchakat as detailed in (2) above.

(*b*) Abandoned motstal gradens, at present cultivated with dry crops owing to failure of water supply.

(4) Old Wut Hukum gardens.

(5) New well gardens formed in dry lands since the original settlement, whether the wells are indirectly benefited or not.

(6) New Wut Hukum gardens.

Note.—New or excess bagayet formed in a number after the Re-survey oprations have to be taken notice of by the classers and entered in their books accordingly, only if water from a Government source of irrigation is made use of.

(*c*) *Garden Survey Numbers Converted into Wet* —Garden survey numbers converted into wet since the original settlement have to be recorded as rice lands but shown also at the end of the *Patstal bagayet takta* number 1, with remarks stating reasons for the conversion.

(*d*) *Wet Numbers Converted into Dry.*—Wet survey numbers converted into dry for failure of water supply.

(*e*) *Dry Converted into Rice without Authority.*—Dry Survey numbers unauthorizedly converted into wet by the use of Government water.

(*f*) *Dry Converted into Wet by Levy of Nirsardi.*—Dry survey numbers converted into wet by the levy of *nirsardi*, or water rate.

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(*g*) *New Wet Lands.*—All survey numbers converted into wet under Government irrigational works, newly opened out since the original settlement. Such numbers, if not already brought on to the Akarband, should be classed both as to soil and water.

Note.—Conversion of Dry into Wet if Irrigable.—Lands recorded as dry should not, on the application of the raiyats, be brought under wet during re-classification, unless they are actually under wet cultivation, irrigated from any Government source of water supply.

2. *Kharab Numbers.*—All survey numbers made during Resurvey out of Gomal or other un-assessed waste, must be classed as to soil and if necessary, as to water supply also.

3. *Kharab Numbers since given out for Cultivation.*—In the case of survey numbers recorded as kharab at the original settlement since given out for cultivation at rates specially fixed by the Superintendent, a soil value corresponding to the rates fixed, may at the descretion of the classing officer be deduced and adopted for the purposes of classing registers, but such lands should be classed in the field as well, if they have not already been classified during Original survey.

4. *Water Class in Garden Lands.*—In the case of gardens situated below tanks, no water class need be applied, though irrigable by tank water, if no water is actually taken by means of a *pat* either from the sluice or by any other method. Such gardens must be treated as *atchkat bagayet.*

5. *Higher Class for Garden Lands Enjoying More Water.*—Where by reason of *mamul* or mutual agreement among holders of land in the *atchkat*, water from the tank, channel or stream is utilized in garden land for a longer period than is wanted for the adjoining rice lands, it will not be objectionable to raise the water supply to the garden to a class higher than that fixed for the rice land.

Bagayet Takhtas.

6. *Patstal bagayet takhta.*—Number 1.

In this *takhta*, the old *patstal bagayet* numbers, if not now converted into wet land, or brought under 3 (*b*) *takhta*, should first be entered in serial order. New *patstal bagayet* numbers made out of dry or wet lands since the original settlement, should then be entered *sezwar* with a separate heading in red ink.

7. *Atchkat Bagayet.*—Atchkat bagayet:—Number 2.

Old *Motstal Bagayet* indirectly benefited should find a place in this *takta.*

8. *Old Motstal Bagayet.*—3 A.

Self dependent well gardens which existed as such at the original settlement, must be entered here.

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9. *B. Bagayet.*—Bagayet coming under class 3 B.

Old *bagayet* survey numbers, not being within an *atchkt*, now deprived of the use of well or *Pat* or both, should be entered here. The classers should satisfy themselves that the well is in ruins or dried up. Bagayet indirectly benefited which would otherwise come under class No. 2 should not be brought into 3 B, without special orders from the Assistant Superintendent. When the classers find that garden cultivation is abandoned in any survey number indirectly benefited by a tank, stream or nala, they must submit a special report clearly stating how long the well has been in disuse, and what approximate outlay would be required to put it in order. Such numbers should be marked on the village map, so that the classer's version might be verified at the time of test.

10. *Old Wut Hukum Bagayet.*—No. 4.

All the old dry *bagayet* recorded as such at the original settlement must find a place in this statement.

11. *New Motstal Bagayet.*—No. 5.

All new well *bagayet* formed since the original settlement except those coming under Patstal Bagayet, should be entered in this statement, whether the wells are self dependent or indirectly benefited. A clear remark in the appropriate column in the takta as well as under the sketch in the classer's book, should be entered as regards in direct benefit, if any.

12. *New Wut Hukum Bagayet.*—No. 6.

All the dry *bagayet* lands newly treated as such during Reclassification must be entered here.

NOTE:—Expanded *bagayet* in mixed survey numbers should have a clear remark written in the appropriate column of the *bagayet* takta, showing from what previous *bab*, dry or wet, the new *bagayet* was formed, to facilitate matters for the settlement officer in fixing the assesment. For purposes of the above rules, "*Atchkat bagayet*" means any garden below a tank, without a right to a direct supply of water therefrom, or situated within the sphere of influence of the water spread of a tank, or on the bank of a river or *halla* with certain benefit to such land by percolation. "Atchkat" implies a situation in proximity to a tank or nala or stream containing water or springs for some time at least after the rains cease, so as to allow of adjacent wells, if any, deriving some benefit therefrom. Such wells must in short, be within the sphere of influence of such irrigational sources.

13. *No Supply owing to Some Permanent Defect in the Tank, etc.*—(1) Lands assessed as "*wet*" but which are not able to obtain a supply of water, sufficient, with the aid of the rain-fall of the tract, to produce a wet crop of any kind, owing to a permanent defect in the work of irrigation, should be classed as "*dry*."

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Where the Supply is Precarious.—(2) In the case of lands of which the water supply is merely precarious on account of the largeness of the atchkat under the work of irrigation concerned, or on account of disadvantage of situation with reference to distance or level, option should be given to the holders thereof of getting them classed as "*Dry.*" The consent of the holders, whether as to conversion to dry or as to retention under the head of "*wet*" should be taken in writing.

Note.—All the survey numbers converted from wet into dry under this section must be marked on the map, to facilitate check at the time of test.

14. *Unauthorised Extension of Wet Cultivation.*—When there is unauthorised extension of wet cultivation in a mixed number consisting of wet and dry, the original wet soil class may be confirmed for the whole wet area. If however the extended portion can be identified in the field, the classer must note the revision soil class thereof, in the appropriate compartment of the sketch in his field book. If a wholly dry survey number is unauthorisedly cultivated with wet crops, partially or wholly, it should be classed both as to soil and water.

15. *Authorised Extension of Wet Cultivation by the Levy of Nirsardi.*—In the case of dry survey numbers, wholly or partly converted into wet by the levy of *nirsardi*, both the water rate and the soil class must be noted in the sketch of the classer's field book, so that the soil value may be determined during Barsathi in conformity with the rate, if necessary, or the intrinsic value confirmed, as the Assistant may deem proper. These entries should be subjected to test in the field.

16. *Date Trees.*—Bagayet and wet survey numbers, lying waste, containing an appreciable number of date trees and not likely to be required for cultivation, may be treated as kharab in the intrests of the Toddy Revenue.

Re-classification of Inam Lands.

17. *Inam Lands.*—The re-classification of Rice and Garden Inam survey numbers should be carried out just in the same manner as in the case of Government lands.

Re-classification in Malnad.

18. *Survey Numbers to be Re-classed in Malnad.*—The following lands should be re-classified.—

(1) All new bagayet measuring 3 guntas and above formed since the original settlement, out of survey numbers recorded as dry, wet or kharab in the Akarband.

(2) All deteriorated garden survey numbers, which are fit for being re-classified, should be reported upon by measurers and orders obtained. All lands from which garden cultivation has entirely disappeared should necessarily be re-classified.

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(3) Survey numbers recorded as dry or kharab at the original settlement, since converted into rice or garden on special rates sanctioned by the Superintendent and brought on to Akarband, if specially ordered to be re-classified.

(4) All the rice and garden lands which may be specially ordered to be re-classified owing to the source of irrigation having been materially improved by Government at a considerable outlay.

(5) All survey numbers whose water supply has failed owing to the breach of any tank or the disrepair of any *nala*.

(6) The Assistant Superintendent may order the regular re-classification of water supply if, in any village, a large number of gardens has materially deteriorated or several of the rice lands are lying waste owing to diminution of water-supply.

(7) Rice lands wholly or partially lying waste or covered with jungle and not likely to be cultivated with wet crops for want of water owing to deficiency of rainfall since the original settlement.

(8) All new survey numbers whether dry crop, rice, or garden made out of kharab numbers during Re-survey, must be re-classified as in the *maidan*.

19. *Improvements to Irrigation Works.*—Before a taluk is taken up for re-classification, the amount spent on irrigational works, during the currency of the original settlement, should be ascertained from the Public Works Department.

With a view to raise the water class, it must also be ascertained from the D. P. W. whether by the improvements water is made available over and above the supply which formed the basis of the original classification.

Tank Registers.—The tank registers maintained in the taluk must also be sent for and necessary notes taken down regarding the tanks brought up to standard or improved since the original settlement.

General.

20. *Field Books.*—Classing field books and *bagayet taktas* must be written according to rules on the subject (Chapter XII), for all the survey numbers.

21. *Entries in Classer's Book.*—The following additional entries must find a place in the classer's books.

(1) In the 4th column, details of extent must be given,
- (*a*) as per Akarband,
- (*b*) as per Re-survey,
- (*c*) as confirmed during re-classification, with reasons for change if any.

NOTE.—The above details are to be given, even if there be no material alterations.

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(2) Comparative details should be written regarding pot kharab in column 6.

(3) *Irrigational Works.*—Full particulars regarding the irrigational works on which the rice and garden lands of a village depend, should be written up at the end of the classer's book, whether such work is situated in the village or not. Improvements or repairs carried out since the original settlement should be enquired into and noted in column 6 in addition to the information to be recorded under the five heads, prescribed in Form No. 1, appended to Chapter XII.

(4) *Bechirak (or depopulated) Villages.*—A note should also be made on the last page of the classer's book, as to the village or villages in which the ryots who actually cultivate the lands of Bechirak villages, reside. Similar particulars should be given in the case of *dakale* villages (hamlets), if *bechirak.*

22. *Phod During Classification.*—As a rule, sub-division of survey numbers which should have been effected during measurement operations, should not be allowed at re-classification, as it would materially retard the progress of Akar work during Barsathi. New survey numbers may be made only under exceptional circumstances, *e.g.*, when occupied and unoccupied portions are left unseparated in the same survey number, or when *phod* is applied for, under a decree of a Civil Court. It must, however, be borne in mind that all errors and omissions must be rectified though additional labour be involved therein.

TEST.

23. *Source of Irrigation.*—When going out for test, the Classing Assistant must first inspect the source of irrigation and find out by every enquiry, whether and how far it has improved or deteriorated since the original settlement. He must observe whether the springs of wells are at great, or at moderate or at convenient or at easy depths and whether they are certain or otherwise during good years and bad.

A note must be made as to the class and the condition of the garden crops raised in a village.

24. *Numbers to be Inspected by the Testing Officer.*—In addition to the test prescribed (Chapter XIII), the testing officer should, as far as possible, inspect the following classes of lands :—

(1) Survey numbers, the boundary marks of which are reported to be missing by classers.

(2) Wet lands converted into dry. [Para 13, (1) & (2) above.]

(3) Garden lands ordered to be entered in 3. B. bagayet takta (Para 9).

(4) Dry lands charged with nirsardi and re-classed both as to soil and water. (Para 15.)

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25. *Remarks on Bagayet Taktas.*—The following remarks should be written on the facing sheet of the Bagayet Taktas on the very day the village is tested.—

(1) Situation of gardens, whether lowlying and favourable, or otherwise,

(2) Supply of tank or channel water whether very good, good, very fair, fair, or uncertain; and whether the gardens depend more on wells than on the *pat* during summer.

(3) Wells:—Whether the springs in wells are at great, moderate, convenient or easy depths.

(4) The chief crops raised:—

Cocoanut, plantain, supari, paddy or ragi, etc. Subsidiary crops, *e.g.*, panvel and plantain to be noted, if important.

(5) General *condition* of Bagayet, good, fairly good, languishing, deteriorated or neglected.

Calculation of Bhag Annas or Soil Class during Barsathi.

26. *Dry Converted into Wet by Levy of Nirsardi.*—Where old *khuski* is now turned to rice land, by the levy of nirsardi, soil value must be calculated,

(*a*) If the Akarband has been amended, by referring to an equivalent *wet-rate* in the Akarband and noting the *bhag-anna*.

(*b*) If the Akarband has not been amended, by adding the Akarband *dry-rate* to the water rate and referring to a *wet-rate* in the Akarband equivalent to this sum.

NOTE:—If the *wet-rate* referred to is not available in the village, an equivalent rate obtaining in a neighbouring village should be used.

27. *Lands under New Irrigation Works.*—Where the tank is new or largely extended and many old dry numbers have been turned into rice land, the *bhag-anna* should be confirmed as per revision class.

28. *Dry Converted into Wet Without Authority.*—If a survey number recorded as entirely dry, has been converted into by the use of Government water, without authority, the revision soil class must be adopted.

29. *Mixed Survey Numbers.*—In mixed survey numbers the *Bhag-anna* or soil value has to be calculated as follows:—

(1) In a mixed number containing dry and rice, if the whole extent is converted into wet, the old wet bhag-anna has to be confirmed.

Old	New	Bhag-anna
D. + R.	R.	R.

(2) If in such a number the wet has been converted into dry, the average of old wet and dry *bhag-annas* should be confirmed.

D. + R.	D.	average

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(3) In a mixed number in which dry, wet and *patstal bagayet* are all recorded in the Akarband, the average of the old *wet* and *patstal bagayet* bhag-annas should be confirmed in case the whole has now been converted into wet land or *pat bagayet*.

D. + R. + P. B. | R. P. B. | average of R. + P. B.

(4) If in such a number the whole extent has been converted into dry, the average of the old dry, wet and bagayet bhag-annas should be adopted.

D. + R. + P. B. | Dry | average

(5) If in an old wet and *patstal bagayet* number, the whole extent is converted into rice or *patstal bagayet*, the average of the old wet and *patstal bagayet* bhag-anna should be confirmed.

R.+P.B. | R.+P.B. | average

(6) If an old wet and *mot-bagayet* survey number has now become wholly wet, the old wet bhag-anna must be confirmed, and if *mot-bagayet*, the average of *tari* and *mot-bagayet* bhag-annas be adopted.

R.+M.B. | R. | R.

(7) If an old survey number containing dry and *patstal bagayet*, has now become *patstal bagayet*, the old *bagayet* bhag-anna should be confirmed, and if wholly dry, the average of the old dry and *patstal bagayet* bhag-annas should be adopted.

D.+P.B. | P.B. D. | old P. B. average

(8) If an old dry and *mot bagayet* survey number has now become entirely *mot-bagayet* or dry, the average of the old dry and *mot-bagayet* bhag-annas should be confirmed.

D.+M.B. | M. B. or D. | average

(9) If an old dry and *bagayet* survey number has now become dry and wet, the old *bagayet* bhag-anna should be confirmed for the new *wet* area.

D. + B. | D. + R. | B. for R.

(10) If an old dry and *mot-bagayet* has now become entirely *patstal bagayet*, the old *bagayet* bhag-anna should be confirmed.

D.+M.B. | P. B. | old B.

Note:—These rules apply when the different kinds of cultivation have entirely changed from one description to another. Where only portions are changed, the original bhag-annas stand good for the remaining portions also.

30. *Mot Bagayet in Dry Survey Numbers.*—If *motstal bagayet* has been formed in a dry survey number, the old dry bhag-anna must be adopted.

31. *Old Kharab Survey Numbers Granted for Cultivation.*—Where portions of old kharab survey numbers are subdivided and granted for cultivation at rates specially sanctioned by the Superintendent,

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(a) if the Akarband is amended, the bhag-anna of other dry numbers of the same rate of assessment in the village must be adopted, and,

(b) if the Akarband has not been amended, the revision class must be confirmed.

32. *Phod Numbers.*—In the case of an old assessed survey number, subdivided subsequent to the original settlement and having the Akarband amended with the assessment fixed on each phod,

(a) if the rates of assessment be equal for all the *phods*, the old bhag-anna for the entire number should be assigned for each and every *phod*,

(*b*) if there be a difference between the rates, the bhag-anna must be found out for each phod according to the class entered in the respective compartments of the old *prati* books.

APPENDIX.

Special rules for the re-classification of wet and garden lands in such of the Malnad and Semi-Malnad taluks as are under special considerations ordered to be classed in greater detail than are implied in the ordinary Malnad Classification Rules.

Rule 1. The classers should find out all survey numbers of the villages appointed to them containing wet land or *bagayet* in whole or in part from the 'A' Sud, the Akarband and the maps.

Rule 2. They should first inspect the sources of irrigation, such as tanks, channels, and *talapariges* and write down the *ahvals* as required by the rules and circular orders on the subject.

Rule 3. After finishing the work under Rule 2, they should proceed to inspect every survey number of the village containing wet or bagayet or both, in whole or in part and note down number by number the following particulars:—

(I) *Babwar Phodi.*—If the Re-survey Babwar Phodi or the confirmation of the Akarband Babwar is correct, they should write a remark to that effect. If incorrect, they should correctly subdivide and note the measurements and area as required by the rules.

(II) *Water Supply.*—The conditions of water supply, *i.e.*, the source of water supply and whether the supply from that source is normal. If the source of water supply to wet or bagayet land, forming a full survey number or a part of it, has dried up or failed, and wet or bagayet cultivation has therefore been abandoned for some years, the matter should be reported for the orders of the Assistant Superintendent for converting

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abandoned wet portions into dry and bringing abandoned bagayet under "3 B" Bagayet Takta.

(III) If sugar cane is cultivated, a remark to that effect should be written.

(IV) *For Dhruvapairu Gardens.*—The number of areca and cocoanut trees and plants under the usual heads and other *chillar* crops raised should be noted.

(V) *For Motstal Bagayet Numbers.*—Whether the wells are self dependent or indirectly dependent on some Government source should be noted. Details of crops and *dhruvapairu* should be given as directed above (IV).

Rule 4. If a source of irrigation has, during the currency of the settlement, been improved at Government cost by raising the waste weir, or capacity of tank, or by construction or extension of channels, and if the water supply has also been increased, the matter must be reported to the Assistant Superintendent for action being taken by him for re-classing the water supply of wet and garden lands benefited by such improved works under the rules applicable to Maidan villages. When such reclassification is carried out, the books must be written up as in the case of *maidan* villages.

Rule 5. In carrying out Rule 3, elaborate classer's books are not wanted. Brief notes under the heads noted in rule 3 will be enough. Survey numbers, Re-survey numbers, *Chalta numbers*, karda's name and areas when not altered by classers by *babwar phod*, may be taken from Re-survey papers. No *kshetras* or sketches are necessary. No remarks about boundary marks or kharab are necessary.

Rule 6. When a malnad village is re-classed according to these rules with the exception of Rule 4, the daily out-turn of work of a classer must not be less than 20 numbers a day. When the daily outturn is less than the prescribed number, classers should point out the reasons for the deficiency.

Rule 7. These rules are not applicable to the Takhta numbers to be re-classed or classed received from the Measuring Establishments.

Rule 8. Akarband wet lands overgrown with jungle or *banjar*, during the currency of the settlement or for some years past for want of sufficient water supply or from uncertain rainfall, should not be confirmed as wet when it is very unlikely that they will ever be brought under wet cultivation. Such abandoned wet lands should be converted into dry or kharab as the case may be.

[*N. B.*—For instructions for the monsoon examination of this work, *vide* Chapter XIV, Section (v) *supra*].

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PARTS I AND II.

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